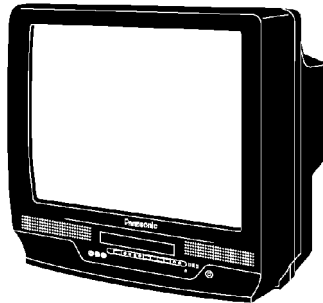


## B6

## Combination VCR

**VHS**

**PVQ-2510 / PV-C2540 / PV-C2540-K / PV-C2580 / PV-C2580-K**



## SPECIFICATIONS

[illegible]

Weight and dimensions shown are approximate  
Designs and specifications are subject to change without notice

Designs and specifications are subject to change without notice

**Panasonic®**

# 1. SAFETY PRECAUTIONS

## GENERAL GUIDELINES

### 1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  $\triangle$  in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of Combination VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination VCR from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations are properly installed.
5. Before turning the receiver on, measure the resistance between B+ line and chassis ground. Connect (-) side of an ohmmeter to the B+ lines, and (+) side to chassis ground. Each line should have more resistance than specified, as follows :

#### B+ Line

##### Minimum Resistance

125 V

1 k  $\Omega$  (Cold chassis ground)

27 V

180  $\Omega$  (Cold chassis ground)

**17 V**

**110  $\Omega$  (Cold chassis ground)**

- 6. When the TV set is not used for a long period of time, unplug the power cord from the AC outlet.**
- 7. Potentials, as high as 32.0 kV are present when this TV set is in operation. Operation of the TV set without the rear cover involves the danger of a shock hazard from the TV set power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the CRT ground of receiver before handling the tube.**
- 8. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.**

**LEAKAGE CURRENT COLD CHECK**

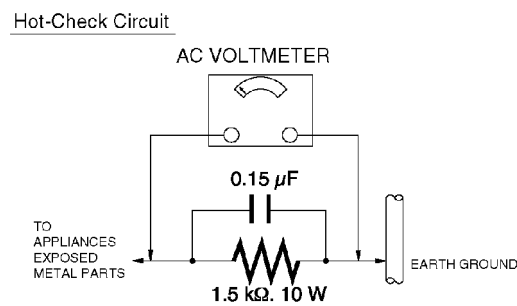
- 1. Unplug the AC cord and connect a jumper between the two prongs on the plug.**
- 2. For physically operated power switches, turn power on. Otherwise skip step 2.**
- 3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M  $\Omega$  and 12 M  $\Omega$  . When the exposed metal does not have a return path to the chassis, the reading must be infinity.**

**LEAKAGE CURRENT HOT CHECK**

- 1. Plug the AC cord directly into the AC outlet.  
Do not use a isolation transformer for this check.**
- 2. Connect a 1.5 k  $\Omega$  , 10 W resistor, in parallel with a 0.15  $\mu$  F capacitor, between each exposed metallic part on the set and a good earth ground , as shown in Figure 1.**
- 3. Use an AC voltmeter, with 1 k  $\Omega$  /V or more sensitivity, to measure the potential across the resistor.**

4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS.  
A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

Figure 1



## 2. X-RADIATION

**WARNING :**

1. The potential source of X-Radiation in TV sets is the High Voltage section and the picture tube.
2. When using a picture tube test fixture for service, ensure that the fixture is capable of handling 32.0 kV without causing X-Radiation.

**NOTE :**

It is important to use an accurate periodically calibrated high voltage meter.

1. Reduce the brightness to minimum.
2. Set the SERVICE switch to SERVICE .
3. Measure the High Voltage. The meter reading should indicate 30.0 kV $\pm$ 2.0 kV.

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.



**4. To prevent an X-Radiation possibly, it is essential to use the specified picture tube.**

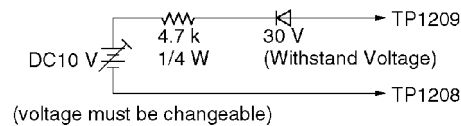
**HORIZONTAL OSCILLATOR DISABLE CIRCUIT TEST SERVICE WARNING :**

The test must be made as a final check before set is returned to the customer.

**CONFIRMATION OF X-RAY MOVEMENT**

- 1. Turn off TV set.**
- 2. Connect the circuit below between TP1209 and TP1208.**

**Figure 2**



- 3. Turn on DC Power, and then turn on the set. Confirm that the picture is on the screen properly.**
- 4. Confirm that the picture goes out of horizontal sync while getting down the voltage to DC Power.**
- 5. If this does not occur even when getting down the voltage of DC Power to 0 V, it means that X-ray protect circuit is not operating. Further confirmation and repair is required.**

**REPAIR PROCEDURES OF HORIZONTAL OSCILLATOR DISABLE CIRCUIT**

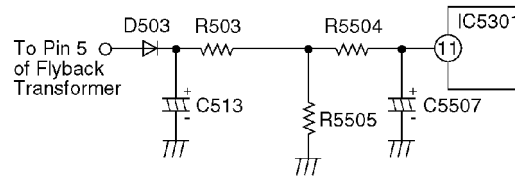
- 1. Connect a DC voltmeter between capacitor C513 (+) on the Main circuit board and chassis ground.**
- 2. If approximately +23.5 V is not present at that point when 120 V AC is applied, find the cause. Check R503, R5505, C5507, C513 and D503.**
- 3. Carefully check above specified parts and related circuits and parts. When the circuit is repaired, try the horizontal oscillator disable circuit test again.**

**CIRCUIT EXPLANATION**

**HORIZONTAL OSCILLATOR DISABLE CIRCUIT**

The positive DC voltage, supplied from the D503 cathode for monitoring high voltage, is applied to the IC5301 Pin11 through R503 and R5504. Under normal conditions, the voltage at IC5301 Pin 11 is less than approx 6 V. If the high voltage at Flyback Tr Pin 5 exceeds the specified voltage, the positive DC voltage which is supplied from the D503 cathode also increases. The increased voltage is applied to IC5301 Pin11 through R503 and R5504. Due to the increased voltage at IC5301 Pin11, the horizontal oscillator frequency increases, the picture goes out of horizontal sync, the beam current decreases and the picture becomes dark in order to keep X-radiation under specification.

**Figure 3**



### **3. PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES**

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors are semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

- 1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.**
- 2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.**
- 3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
- 4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.**
- 5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**
- 6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).**

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:**

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

"NOTE to CATV system installer :

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical."

## 4. OPERATION GUIDE

## 5. SERVICE NOTES (PLEASE READ)

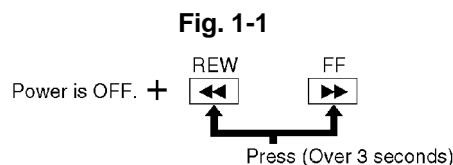
### 5.1. SERVICE NOTES

#### 5.1.1. SIMPLIFIED FAULT FINDING DATA

Simplified Self-Diagnostic System facilitates finding the cause of the fault. A 4 digit for fault code and communication for I2C bus code will be displayed on TV screen.

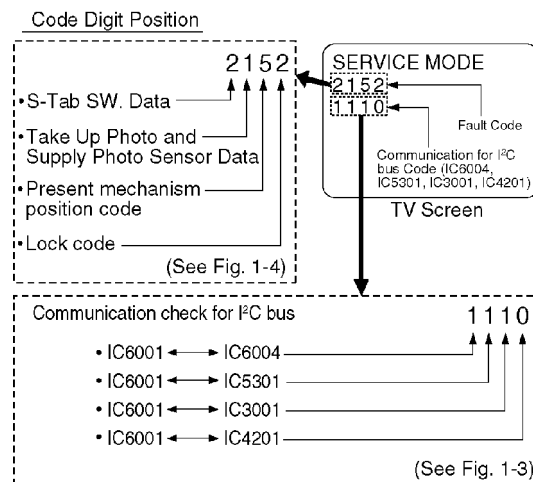
The Simplified Fault finding data is stored in the Memory IC (IC6004). This data is cleared after it is displayed, and then the POWER button is pressed back on.

1. With power turned off, press FF and REW buttons on unit together for over 3 seconds.



2. TV power goes on and the unit goes into service mode.  
4 digit for fault code and communication for I2C bus code will be displayed.

Fig. 1-2



**Fig. 1-3**

**(Communication check for I²C bus)**

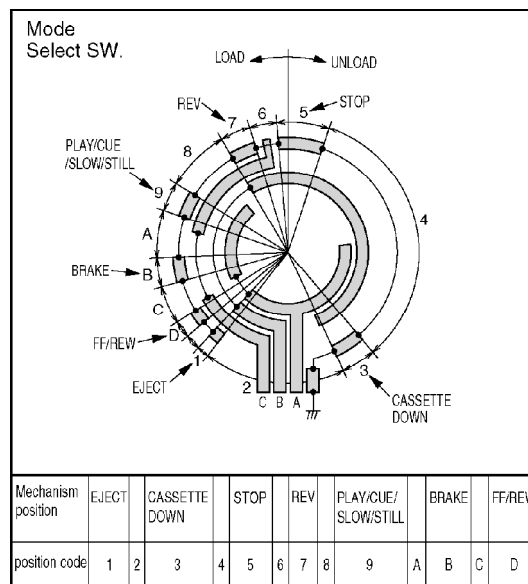
Explanation of Codes	Code No.			
Communication check for I²C bus (IC6001 ↔ IC6004) ----- NG OK	0 1			
Communication check for I²C bus (IC6001 ↔ IC5301) ----- NG OK		0 1		
Communication check for I²C bus (IC6001 ↔ IC3001) ----- NG OK			0 1	
Communication check for I²C bus (IC6001 ↔ IC4201) ----- NG OK				0 1
<b>Note:</b> For Normal Audio models, only "0" will be displayed as code No. because IC4201 (Hi-Fi Audio IC) is not used.				

**Fig. 1-4**

(Fault Code)

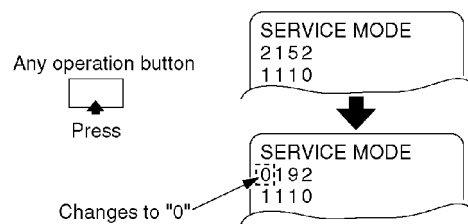
Explanation of Codes	Code No.			
<b>S-Tab SW. Data</b> • S-Tab SW. is off. • S-Tab SW. is on.	1			
	2			
<b>Take Up and Supply Photo Sensor Data</b> • No light detected at either sensor. • Take Up Photo Sensor detected at beginning of tape. • Supply Photo Sensor detected at end of tape. • Light detected at both sensors.		1		
		2		
		3		
		4		
<b>Present Mechanism Position Code</b>  Mechanism Position is indicated. (Refer to Fig. 1-5.)			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			A	
			B	
			C	
<b>Lock Code (See Note)</b> • VCR is not in shut-off condition. • Reel lock. • Cylinder lock. • Exceeds loading/unloading time. (Mechanism Lock) • Exceeds Cassette loading/unloading time. (Cassette Lock) Tape Unloading (direction) Tape Loading (direction)			0	
			1	
			2	
			3	
		1		4
		2		4

Fig. 1-5



- Press any operation button except for **POWER** on either the unit, or the remote to detect that a key has been pressed.  
The 1st digit changes to "0" only when key is detected.

Fig. 1-6



**Note:**

When 1 to 4 listed in Lock code occurs, the VCR stops and all VCR function buttons except for power become non-operational.

## 5.1.2. SERVICE POSITION

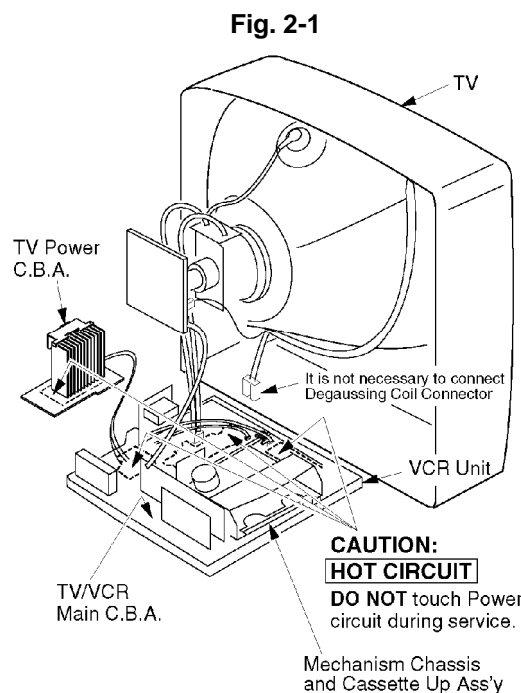
### 5.1.2.1. Service Position

Service Position	Purpose
Service Position (1)	Mechanism check Mechanical adjustment Electrical adjustment
Service Position (2)	TV/VCR Main C.B.A. check

**CAUTION:**

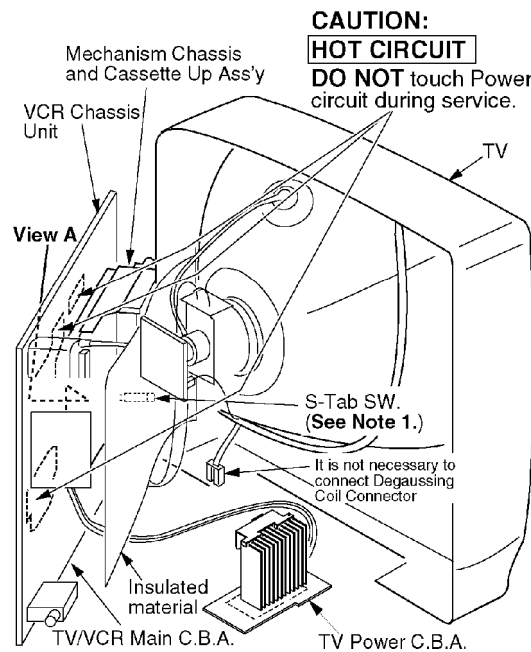
**HOT CIRCUIT(Primary circuit) exists on the TV/VCR Main C.B.A. and the TV Power C.B.A. Use extreme care to prevent accidental shock when servicing.**

#### 5.1.2.1.1. Service Position (1)



#### 5.1.2.1.2. Service Position (2)

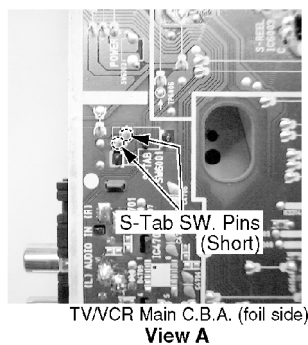
**Fig. 2-2**



**Note:**

1. When recording in Service Position (2), short the S-Tab SW. Pins on foil side of TV/VCR Main C.B.A. to turn this SW. on.

**Fig. 2-3**



Alternative method:  
Cover the S-Tab SW. with masking tape.

2. When disassembling/assembling, refer to "**CABINET SECTION**" in DISASSEMBLY/ASSEMBLY PROCEDURES.

### 5.1.3. HOT CIRCUIT

Primary circuit exists on the TV/VCR Main C.B.A. and the TV Power C.B.A.

This circuit is identified as " HOT " on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

### 5.1.4. SERVICE MODE

In order to inhibit detection of the Supply& Takeup Photo Transistors, Reel Sensor, and Cylinder Lock, place a jumper between TP6001 and GND.

In this mode, Mechanism movement can be confirmed. When removing Cassette Up Ass'y, it can be confirmed without a cassette.

To release from this mode, remove the jumper between TP6001 and GND.

### 5.1.5. CAUTION FOR INSTALLATION OF VCR UNIT

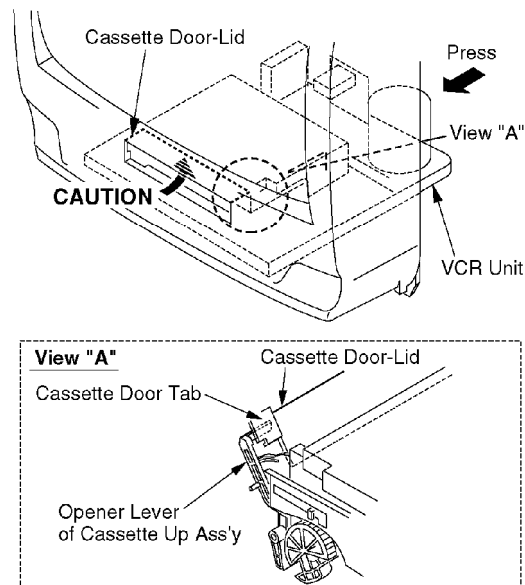
**CAUTION:**

Opener Lever may be damaged when VCR Unit is installed, with Cassette Door-Lid and Opener Lever of Cassette Up Ass'y set incorrectly.

Install the VCR Unit as follows:

1. Swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.
2. Make sure that all guide tabs are aligned properly. Then, press the VCR Unit straight in.

Fig. 3

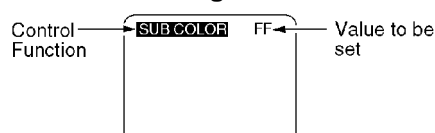


### 5.1.6. HOW TO INITIALIZE MEMORY IC

After the Memory IC (IC6004) or TV/VCR Main C.B.A. is replaced, be sure to set the Default value to Memory IC as shown in "Memory IC Reference Table" below.

1. Press and hold **STOP**, **PLAY**, and **VOL DOWN** buttons on the unit together over 5 seconds with no cassette inserted.  
The adjustment overlay will appear to Enter EVR Adjustment mode.

Fig. 4-1



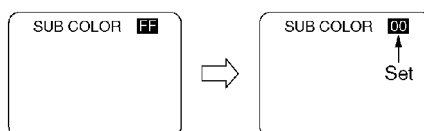
2. Set the Default value of all Control functions using a remote control as shown in "Memory IC Reference Table."



**Note:**

For Selecting Control functions and setting Default value, refer to "**HOW TO ENTER EVR ADJUSTMENT MODE**" and "**HOW TO ENTER EVR PG SHIFTER ADJUSTMENT MODE**" in ELECTRICAL ADJUSTMENT procedures.

Fig. 4-2



3. Press and hold STOP, PLAY, and VOL DOWN buttons on the unit together over 5 seconds again or press the POWER button OFF to release EVR Adjustment Mode.

The Default value will be written to Memory IC (IC6004).

4. Perform all EVR Adjustments. (Refer to "**EVR (Electronic Variable Register) ADJUSTMENT WITH THE REMOTE CONTROL**" in ELECTRICAL ADJUSTMENT procedures.)

**Memory IC Reference Table**

Control functions	Address	Range	Default
SUB COLOR	00	C0 – FF, 00 – 3F	00
SUB TINT	01	E0 – FF, 00 – 1F	00
SUB BRIGHT	02	C0 – FF, 00 – 3F	F0
CONTRAST	03	C1 – FF, 00	00
SUB SHARPNESS	04	E0 – FF, 00 – 1F	00
R CUT -OFF	05	00 – 7F	1E
G CUT -OFF	06	00 – FD	3C
B CUT -OFF	07	00 – FD	3C
G DRIVE	08	00 – 7F	40
B DRIVE	09	00 – 7F	40
SUB CONTRAST	0A	00 – 0F	06
H CENTER	0B	00 – 0F	08
SUB V	0C	00 – 03	00
V SIZE	0D	00 – 7F	40
V POSITION	0E	00 – 7F	40
ANR CTL	10	00 – EF	89
PICTURE CTL	11	00 – EF	86
VV COLOR	12	C0 – FF, 00 – 3F	00
VV TINT	13	E0 – FF, 00 – 1F	00
VV SHARPNESS	14	E0 – FF, 00 – 1F	F8
PG SHIFTER	15	01 – FD	80
FM ANT	18	00 – 01	00/01

**Note:**

1. Address is not displayed on the TV screen.  
Other Addresses except above are not used.
2. In models for USA, set the Default value of FM ANT to "00."  
In models for CANADA, set the Default value of FM ANT to "01."

## 5.1.7. METHOD FOR LOADING/UNLOADING OF MECHANISM

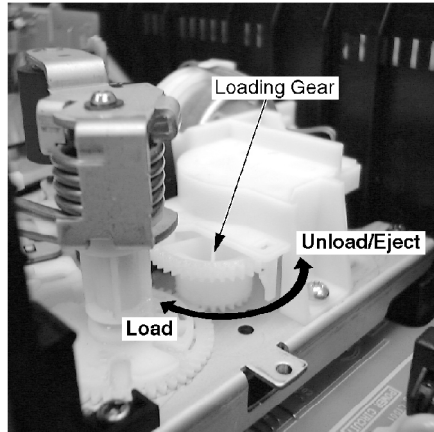
### 5.1.7.1. (Manual Method)

Turn the Loading Gear clockwise (for loading) or counterclockwise (for unloading) using needlenose pliers etc.

**Note:**

**Do not use this method if Mechanism is jammed or locked.**

**Fig. 5-1**



**5.1.7.2. (Electrical Method)**

**Apply +10.0 V DC Power Supply to the Loading Motor terminals.**

**Loading**

**DC+ to Portion "a," DC - to Portion "b"**

**Unloading**

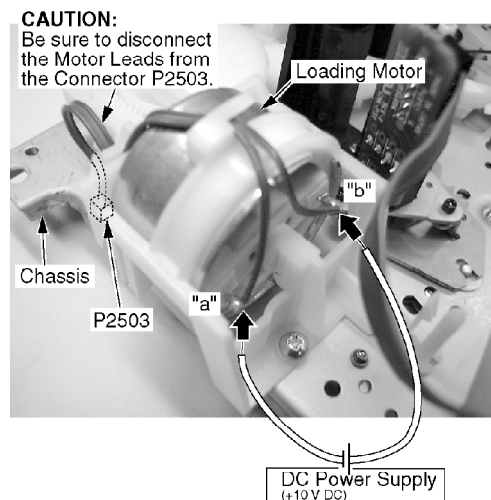
**DC - to Portion "a," DC+ to Portion "b"**

**CAUTION:**

**Before applying DC Power Supply, be sure to disconnect the Motor Leads from the Connector P2503.**

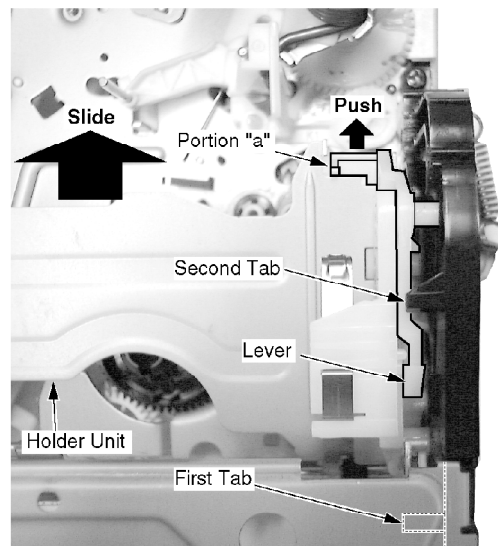
**Otherwise, the Loading Motor Drive IC (IC2501) may be damaged.**

**Fig. 5-2**



**When loading without a cassette, push Portion "a" on the Holder Unit of Cassette Up Ass'y so that the Lever clear the First Tab and Second Tab.**

**Fig. 5-3**



### 5.1.8. HOW TO REMOVE A JAMMED TAPE

#### CAUTION:

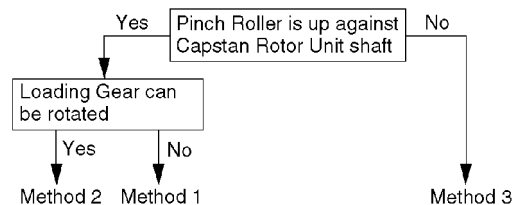
Wiper Arm Unit may be damaged or its spring may be out of place when the jammed tape is removed by force.

Remove a jammed tape as follows:

#### 5.1.8.1. Manual Method

When a tape jam is encountered, check the tape loading condition and use the following procedure to remove a tape jam.

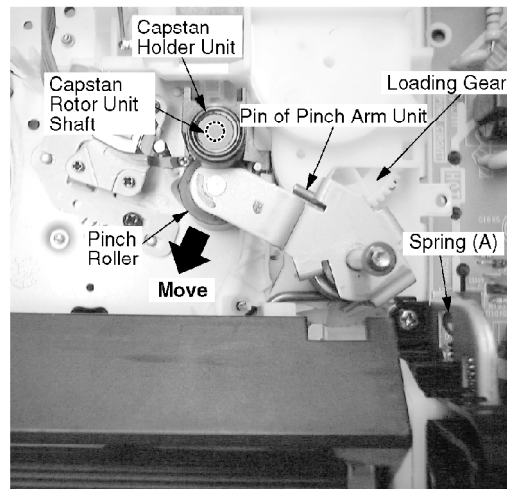
Fig. 6-1



#### 5.1.8.1.1. Method -1:

1. Move the Pinch Roller Unit out by unhooking the Pin of Pinch Arm Unit so that the Pinch Roller is separated from the Capstan Rotor Unit shaft.

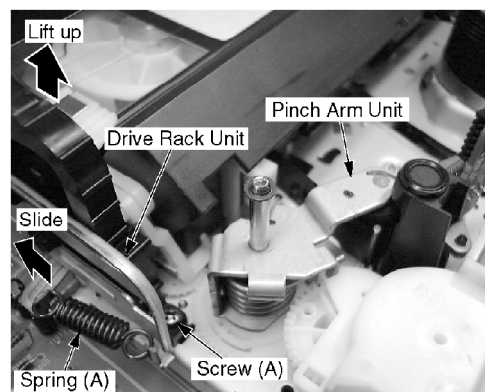
Fig. 6-2



Top View

2. Remove the tape from the tape path.
3. Rewind the tape into the cassette by rotating the Center Clutch Unit counterclockwise.
4. Unhook Spring (A) of the Drive Rack Arm.
5. Remove Screw (A).
6. Lift the Cassette Up Ass'y. While pulling the Cassette Up Ass'y out far enough so that it clears the Drive Rack Arm, slide the Drive Rack Unit as indicated by the arrow to remove the cassettetape from the Cassette Up Ass'y.
7. Check the cause of mechanical trouble and repair.

Fig. 6-3



**5.1.8.1.2. Method -2:**

1. Rotate Loading Motor counterclockwise with needlenose pliers, etc. so that the Pinch Roller is separated from the shaft of the Capstan Rotor Unit.

## 2. Perform Step 2 through Step 7 of Method -1.

### 5.1.8.1.3. Method -3:

## 1. Perform Step 2 through Step 7 of Method -1.

### Note:

After repairing mechanical trouble, make sure that all gear alignments are correct, especially the Wiper Arm Unit and Drive Rack Unit of Cassette Up Ass'y. (Refer to "**EJECTPosition Confirmation**" in DISASSEMBLY/ASSEMBLY PROCEDURES.)

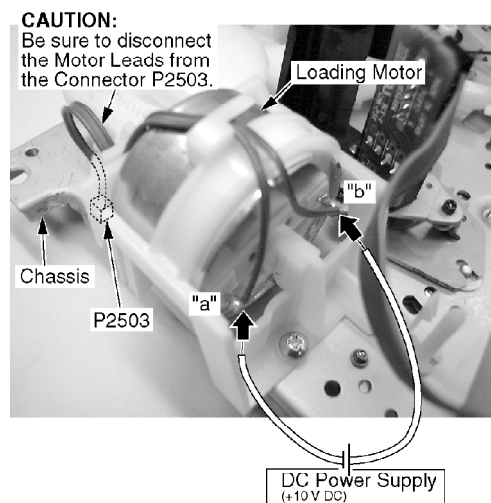
### 5.1.8.2. Electrical Method

Electrical method can only be performed when the mechanism is moved by rotating the Loading Gear.

### CAUTION:

1. Before applying DC Power Supply, be sure to disconnect the Motor Leads from the Connector P2503.  
Otherwise, the Loading Motor Drive IC (IC2501) may be damaged.
  2. If loading does not start in approx. 2 seconds after DC Power Supply is applied, DO NOT continue to apply DC Power Supply.  
Instead, perform "**Manual Method.**"
1. Be sure to disconnect the Motor Leads from the Connector P2503.
  2. Apply +10.0 V DC Power Supply to the Loading Motor terminals.
  3. When the Loading Posts reach the fully unloaded position, remove the Power Supply.

Fig. 7



## 4. Rewind the tape into the cassette by turning the Center Clutch Unit

counterclockwise.

## 5. Eject the cassette by applying +10.0 V DC Power Supply again.

### 5.1.9. VCR Test Mode

High Voltage is inhibited by connecting Jumper J801 on the TV/VCR Main C.B.A., however, it is possible to check the VCR even when CRT C.B.A. and Anode Cap are removed.

### 5.1.10. WIRE AND LEAD POSITION DIAGRAM

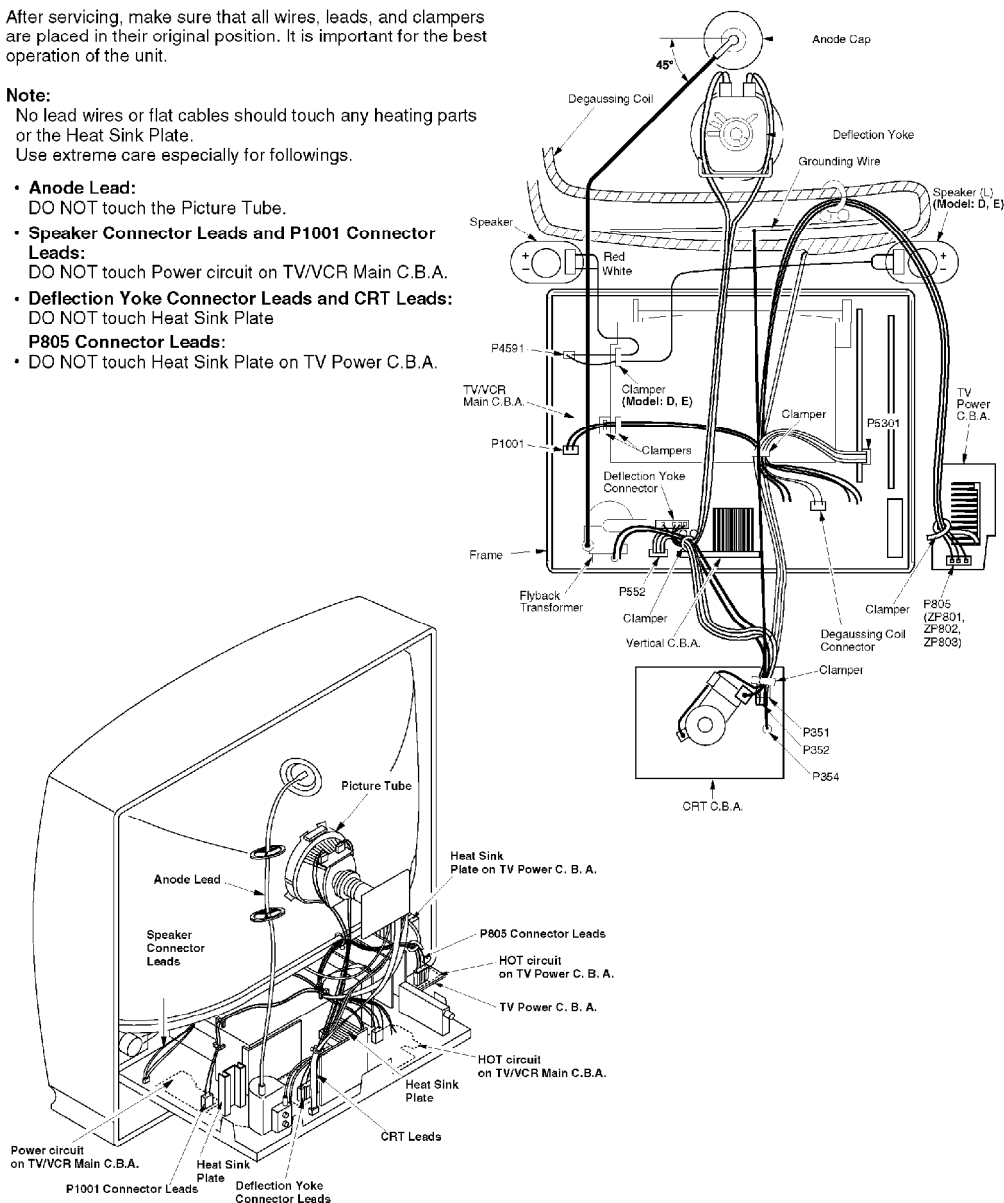
Fig. 8

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

**Note:**

No lead wires or flat cables should touch any heating parts or the Heat Sink Plate.  
Use extreme care especially for followings.

- **Anode Lead:**  
DO NOT touch the Picture Tube.
- **Speaker Connector Leads and P1001 Connector Leads:**  
DO NOT touch Power circuit on TV/VCR Main C.B.A.
- **Deflection Yoke Connector Leads and CRT Leads:**  
DO NOT touch Heat Sink Plate
- **P805 Connector Leads:**  
DO NOT touch Heat Sink Plate on TV Power C.B.A.



### 5.1.11. DEFEATING THE AUTO TRACKING

To defeat the Auto Tracking Function, place the instrument in the STOP mode and place a jumper between TP6003 and TP6009 on the TV/VCR Main C.B.A. The tracking will be placed in the neutral position.

#### **5.1.12. HOW TO SET TRACKING TO THE NEUTRAL POSITION**

Ejecting the cassette tape and then reinserting it will reset the tracking to the Neutral position.

#### **5.1.13. BLACK SCREWS ON THE CHASSIS**

Black Screws are used on the Mechanism Chassis to identify screws that require adjustment.

#### **5.1.14. HOW TO RESET ALL COMBINATION VCR MEMORY FUNCTIONS**

To reset (clear) the select language, channel auto set and set clock functions to their initial power on condition (power on, no cassette inserted), hold down the PLAY and FF buttons on the unit together for more than 5 seconds.

Power will shut off.

#### **5.1.15. HOW TO CONFIRM AUTO CLOCK SET FEATURE**

- 1. Connect an RF cable from the output of one unit to the input of the test unit.**
- 2. Select corresponding RF channels.**
- 3. Playback a recording of P.B.S. channel including clock set data and confirm this feature.**

#### **5.1.16. VARIABLE VOLTAGE ISOLATION TRANSFORMER**

An Isolation Transformer should always be used during the servicing of Combination VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination VCR from being damaged by accidental shorting that may occur during servicing.

Also, when troubleshooting the above type of Power Supply Circuit, a variable isolation transformer is required in order to increase the input voltage slowly.

#### **5.1.17. SPECIAL NOTE**

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

#### **5.1.18. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENTS**

The following procedures are recommended for the replacement of the leadless components used in this unit.

##### **1. Preparation for replacement**

###### **A. Soldering Iron**

Use a pencil-type soldering iron that uses less than 30 watts.

###### **B. Solder**

Eutectic Solder (Tin 63%, Lead 37%) is recommended.

###### **C. Soldering time**

Do not apply heat for more than 4 seconds.

###### **D. Preheating**

Leadless capacitor must be preheated before installation. -

(266°F ~ 302°F)

(130°C ~150°C) for about two minutes.

**Note:**

- A. Leadless components must not be reused after removal.
- B. Excessive mechanical stress and rubbing of the component electrode must be avoided.

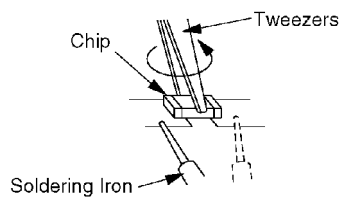
## 2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove the leadless component with a twisting motion.

**Note:**

- A. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twisting action.
- B. Be careful not to break the copper foil on the printed circuit board.

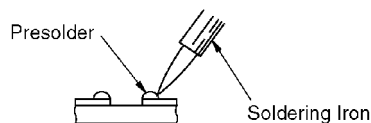
**Fig. 9-1**



## 3. Installing the leadless component

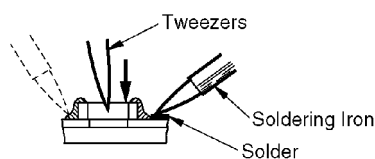
- A. Presolder the contact points on the circuit board.

**Fig. 9-2**



- B. Press the part downward with tweezers and solder both electrodes as shown below.

**Fig. 9-3**



**Note:**



**Do not glue the replacement leadless component to the circuit board.**

### 5.1.19. MODEL NO. IDENTIFICATION MARK

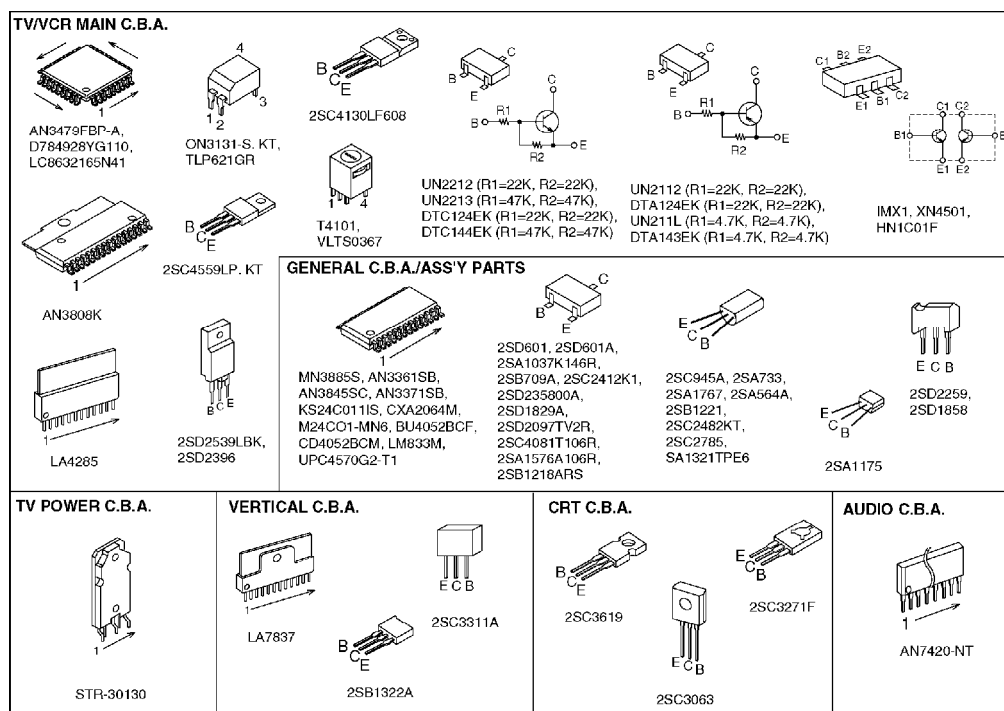
Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z

**Note:**

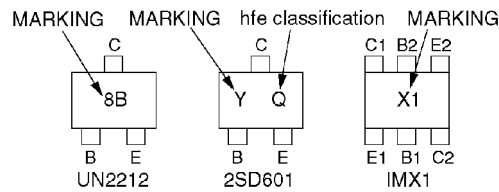
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "Z."

## 5.2. IC, TRANSISTOR AND CHIP PART INFORMATION



### 5.2.1. HOW TO READ THE IDENTIFICATION MARK OF CHIP COMPONENTS.

MARKING	PART NO.	MARKING	PART NO.
B	2SB709A	6B	UN2112
B	2SC4081T106R	8B	UN2212
B	2SB1218ARS	5H	XN4501
F	2SA1037K146R	6Q	UN211L
F	2SA1576A106R	X1	IMX1
Y	2SD601	13	DTA143EK
Z	2SD601A	15	DTA124EK
Z	2SD1819A	1A	MA110
B1	2SC2412K1	1B	MA111



## 5.2.2. HOW TO READ THE VALUES OF THE CYLINDRICAL TYPE CHIP COMPONENTS.



The widest color band must be read first for value.

### 1. RESISTOR

There are two types (ERD10LLJ... and ERD10TLJ...) of chip parts.

A. ERD10LLJ: Refer to above type.

B. ERD10TLJ: The narrow color band must be read first for value. If this part is included in the parts list, be sure that the color band is read properly when servicing.

### 2. CAPACITOR

Because of the width of the color bands, the reading direction cannot be specified. However, the color band can be read on either side. Be sure to confirm the value using the schematic diagram.

#### CAUTION :

Once chip parts are removed, they must not be reused.

Always use a new part when installing a chip part.

## 6. DISASSEMBLY/ASSEMBLY PROCEDURES

### 6.1. CABINET SECTION

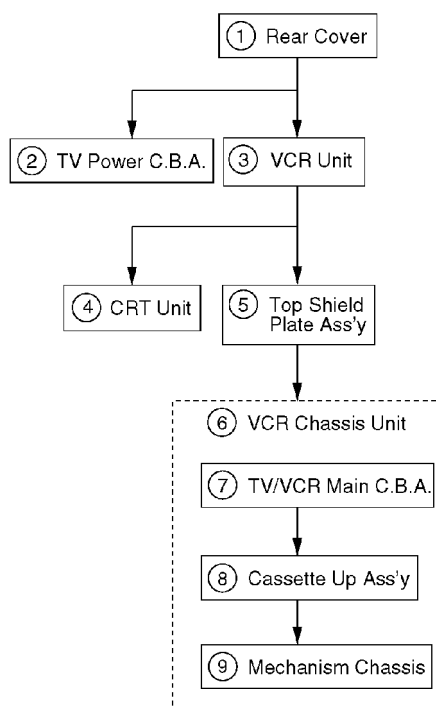
#### 6.1.1. Disassembly Flowchart

Perform all disassembly procedures in the order described in the "Disassembly Flowchart" shown below. When reassembling, use the reverse procedure.

#### CAUTION:

Disconnect AC plug before disassembly.

Fig. D1



### 6.1.2. Disassembly Method

STEP /LOC. No.	PART	Fig. No.	REMOVE	Note
①	Rear Cover	D2	8(S-1)	---
②	TV Power C.B.A.	D2 D3	(S-2), Clampers, P805 (ZP801, ZP802, ZP803)	---
③	VCR Unit	D3 D4	Anode Cap, P354, CRT C.B.A., Deflection Yoke Connector, Degaussing Coil Connector, Clampers, P4591, P552 2 Tabs, 2 Guide Tabs	1
④	CRT Unit	D2	4(S-3)	2
⑤	Top Shield Plate Ass'y	D3 D5	P1001, 4(S-4), (S-5)	---
⑥	VCR Chassis Unit	D5	2(S-6), 2(S-7), 6(L-1)	3
⑦	TV/VCR Main C.B.A.	D5	P3001, P6202, P6201, P4001	4
⑧	Cassette Up Ass'y	D5	2(S-8), (S-9), (P-1), (L-2)	5
⑨	Mechanism Chassis	D5	-----	---

↑

A

↑

B

↑

C

↑

D

↑

E

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform step(s) in reverse order.

These numbers are also used as the identification (location) No. of parts in Figures.

B: Part to be removed or installed.

C: Fig. No. showing Procedure or Part Location.

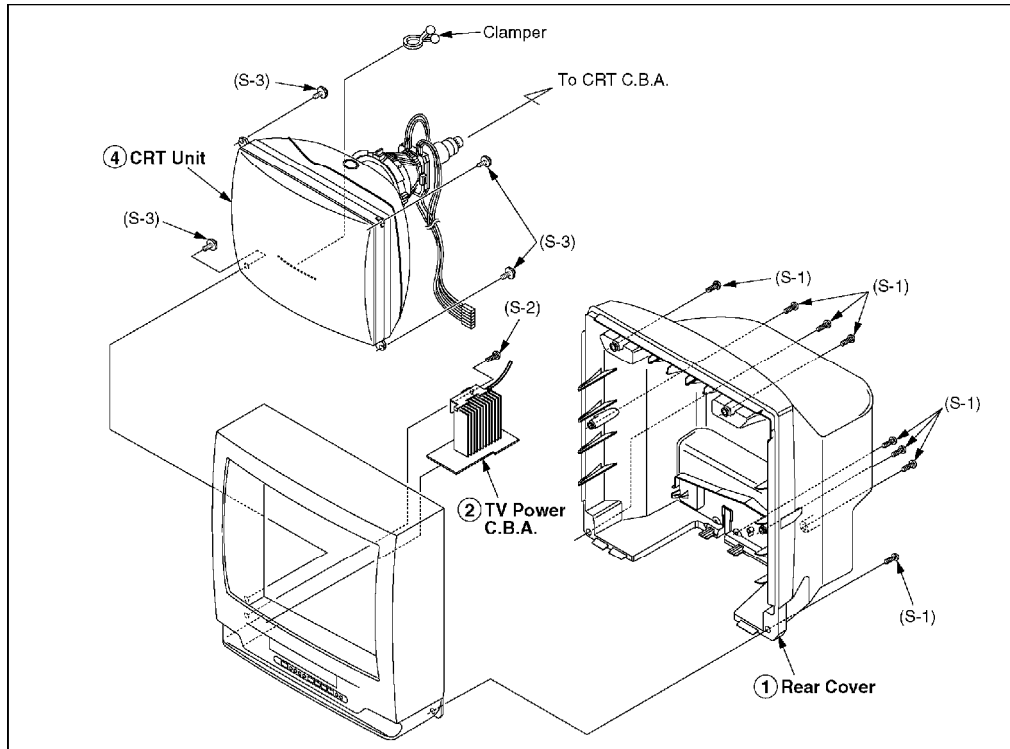
D: Identification of part to be removed, unhooked, unlocked, released, unplugged or unsoldered.

6(S-1)= 6 Screws (S-1), 6(L-1)= 6 Locking Tabs (L-1),

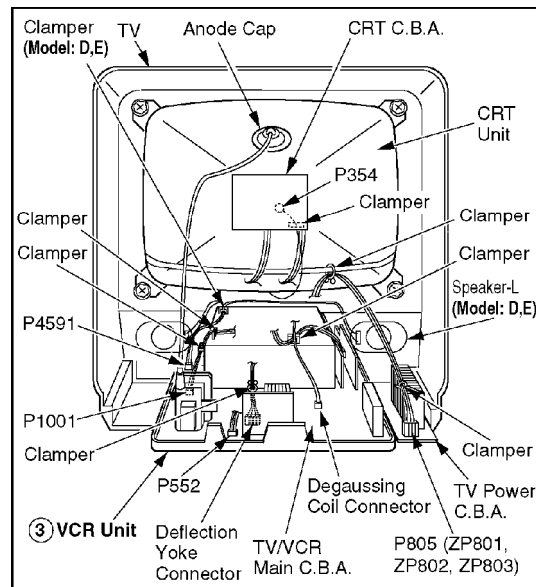
(P-1)= Spring (P-1)

E: Refer to "**Notes in chart.**"

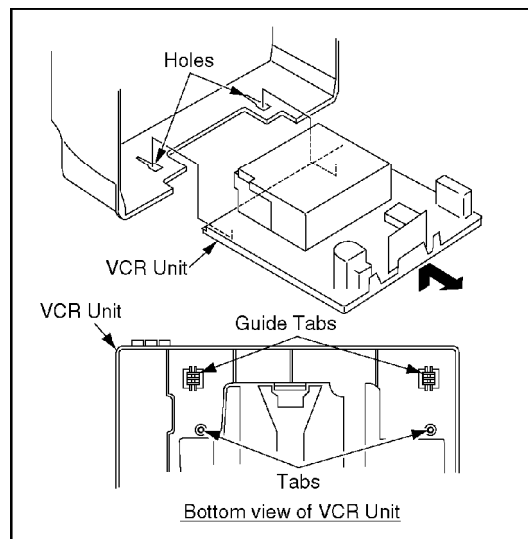
**Fig. D2**



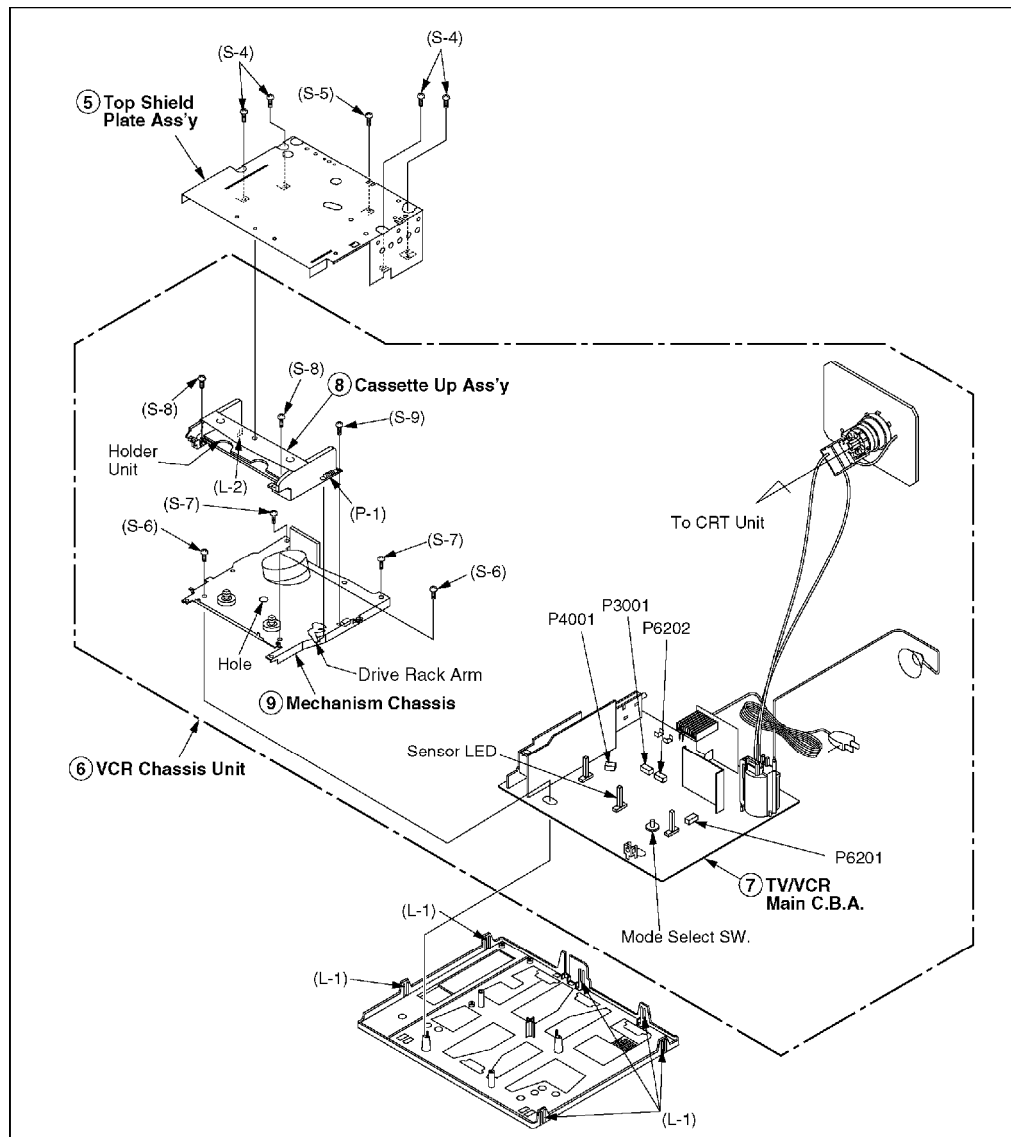
**Fig. D3**



**Fig. D4**



**Fig. D5**



**6.1.2.1. Notes in chart**

## 1. Installation of VCR Unit

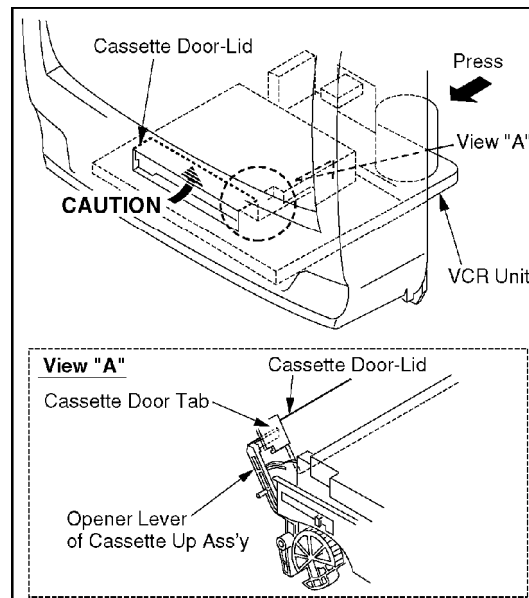
### CAUTION:

Opener Lever may be damaged when VCR Unit is installed, with Cassette Door-Lid and Opener Lever of Cassette Up Ass'y set incorrectly.

A. When installing the VCR Unit, swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.

B. Make sure that all guide tabs are aligned properly. Then, press the VCR Unit straight in.

Fig. D6



## 2. Removal of CRT Unit

Place the Unit face down on a soft cloth before removing the CRT Unit.

## 3. Installation of VCR Chassis Unit

When installing 2 Screws (S-6), slide the Holder Unit of the Cassette Up Ass'y (Refer to "**METHOD FOR LOADING/ UNLOADING OF MECHANISM**" in SERVICE NOTES) to tighten screws. Then, slide it back to the EJECT Position.

Make sure that Mechanism and Cassette Up Ass'y are in the EJECT Position. (Refer to "**EJECT Position Confirmation**" in DISASSEMBLY/ASSEMBLYPROCEDURES.)

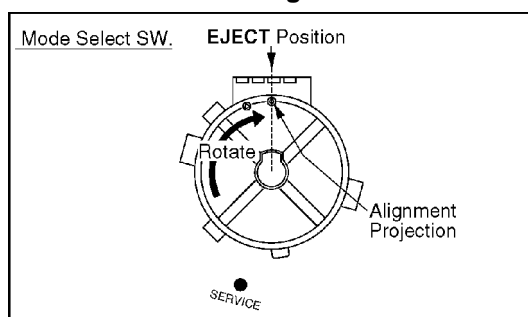
## 4. Removal of TV/VCR Main C.B.A.

Work carefully so as not to break Sensor LED when lifting the Mechanism Chassis and Cassette Up Ass'y.

Installation of Mechanism Chassis and Cassette Up Ass'y onto TV/VCR Main C.B.A.

- A. Make sure the Mode Select SW. on the TV/VCR Main C.B.A. is in EJECT position. If not, rotate the Mode Select SW. until the alignment projection is in the EJECT position.
- B. Make sure the Mechanism and Cassette Up Ass'y are in the EJECT position. (Refer to "**EJECT Position Confirmation**" in DISASSEMBLY/ASSEMBLY PROCEDURES.)

Fig. D7



- C. Install the Mechanism Chassis and Cassette Up Ass'y straight onto the TV/VCR Main C.B.A. so that the Sensor LED clears the hole in the Mechanism Chassis and that 4 Connectors (P6201, P6202, P3001, and P4001) are aligned and seated securely.
5. Installation of Cassette Up Ass'y
- A. Confirm that the Locking Tab (L-2) under the Cassette Up Ass'y is in Hole on the Mechanism Chassis when installing the Cassette Up Ass'y. Then, slide the Cassette Up Ass'y towards the back.
  - B. When installing 2 Screws (S-8), slide the Holder Unit (Refer to "**METHOD FOR LOADING/UNLOADING OF MECHANISM**" in SERVICE NOTES) to tighten screws. Then, slide it back to the EJECT position.
  - C. Hook Spring (P-1) to the Drive Rack Arm on the Mechanism Chassis.

## 6.2. MECHANISM SECTION

### 6.2.1. Disassembly/Reassembly Method

This procedure starts with the condition that the cabinet parts and TV/VCR Main C.B.A. have been removed.  
When reassembling, perform the step(s) in the reverse order.

**Perform all disassembly/reassembly and alignments procedures in EJECT Position.**

Step/Loc. No.	Prior Step(s)	Part	Fig. No.	Remove	Alignment/Adjustment
①	-----	Grounding Plate Unit	J2-1	(S-1)	Adjustment
②	-----	Full Erase Head	J2-1	(L-1)	
③	1	Cylinder Unit	J2-1	P4092, Unsolder, 2(S-2), 3(S-3), Head Amp C.B.A.	TAPE INTERCHANGEABILITY Adjustment
④	-----	Capstan Belt	J3-1	-	
⑤	-----	Support Angle	J3-1	(S-4), 2(S-5)	
⑥	5	Intermediate Gear B	J3-1	(L-2)	Gear Alignment
⑦	4,5,6	Main Cam Gear	J3-1	Main Cam Push Nut	Gear Alignment
⑧	4	Center Clutch Unit	J4-1	(W-1)	
⑨	4,8	Changing Gear Spring	J4-1	-	
⑩	4,8,9	Changing Gear	J4-1	-	
⑪	4,8,9,10	Idler Arm Unit	J4-1	-	
⑫	-----	Reel Gear	J5-1	2(L-3)	
⑬	4,5,6,7,8,9,10	Main Rod	J5-1	(W-2), (L-4)	Gear Alignment
⑭	-----	Stopper Angle	J6-1	(S-6)	
⑮	4,5,14	Capstan Rotor Unit	J6-1	-	
⑯	4,5,14,15	Oil Seal	J6-1	-	
⑰	4,5,14,15	Capstan Stator C.B.A.	J6-1	P2508, 2(S-7)	
⑱	-----	MR Head	J6-1	(S-8), Unsolder	MR HEAD GAP Adjustment
⑲	4,8,9,10,13	T Loading Arm Unit	J7-1	-	Gear Alignment
⑳	4,5,6,7,8,9,10,13,19	S Loading Arm Unit	J7-1	-	Gear Alignment
㉑	-----	T Brake Unit	J8-1	-	
㉒	-----	Tension Control Arm Unit	J8-1	3(L-5)	
㉓	21	T Reel Table	J8-1	-	
㉔	22	S Reel Table	J8-1	-	
㉕	22	Tension Arm Unit	J8-1	2(L-6), (P-1), (P-2)	
㉖	22,25	Loading Post Base-T Unit	J9	-	P2 AND P3 POST HEIGHT, TAPE INTERCHANGEABILITY Adjustment
㉗	22,25	Loading Post Base-S Unit	J9	-	
㉘	-----	Opener Piece	J10-1	2(L-7)	
㉙	4,5,6,7	Drive Rack Arm	J10-1	-	
㉚	28	Pinch Arm Unit	J10-1	(C-1)	
㉛	28,30	P5 Arm Unit	J10-1	-	
㉜	5,6,28	Intermediate Gear A	J10-1	-	Gear Alignment
㉝	38	Motor Block Unit	J11-1	2(S-9)	
㉞	-----	Audio Control Head Unit	J11	(S-10)	TAPE INTERCHANGEABILITY Adjustment
㉟	5,6,28,30,32,33	Lift Gear	J11	-	
㊱	4,5,14,15,33	Capstan Holder Unit	J11	3(S-11)	
㊲	22,25	Tension Arm Boss	J11	(L-8)	
㊳	-----	Cleaner Arm Unit (Model: A)	J11	(L-9)	

↑ A                      ↑ B                      ↑ C                      ↑ D                      ↑ E                      ↑ F

**How to read chart shown above:**

- A: Order of Procedure steps.  
When reassembling, perform steps(s) in reverse order.  
These numbers are also used as the identification (location) No. of parts in Figures.
- B: Steps to be completed prior to the current step.
- C: Part to be removed or installed.
- D: Fig. No. showing Procedure or Part Location.
- E: Identification of part to be removed, unhooked, unlocked, released, unplugged or unsoldered.  
(S-1) = Screw (S-1), (L-1) = Locking Tab (L-1),  
(W-1) = Washer (W-1), (P-1) = Spring (P-1),  
(C-1) = Cut Washer (C-1)
- F: Alignment/Adjustment which is required when installing or replacing each Parts.

#### CAUTION:

Removed Cut Washer is not reusable.  
If removed, install a new one.

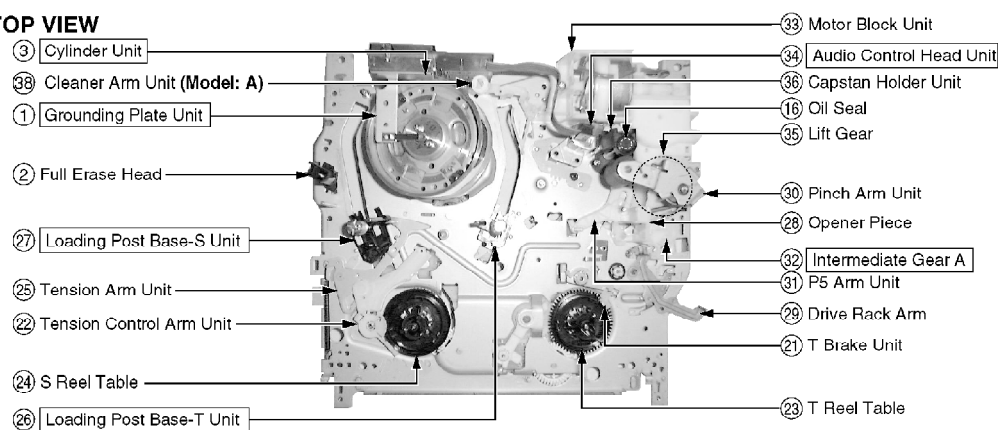
## 6.2.2. Inner Parts Location

**Note:** BOX indicates alignment (Gear Alignment or Mechanical Adjustment) required when a part is replaced.

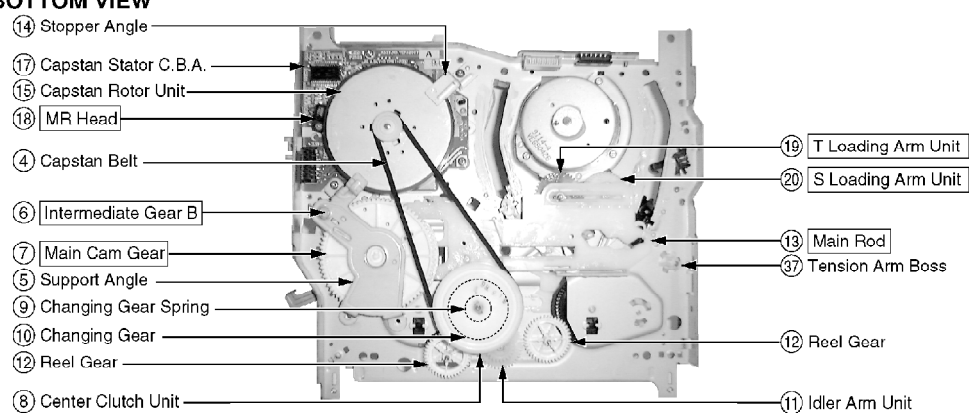
**Fig. J1-1**



### TOP VIEW



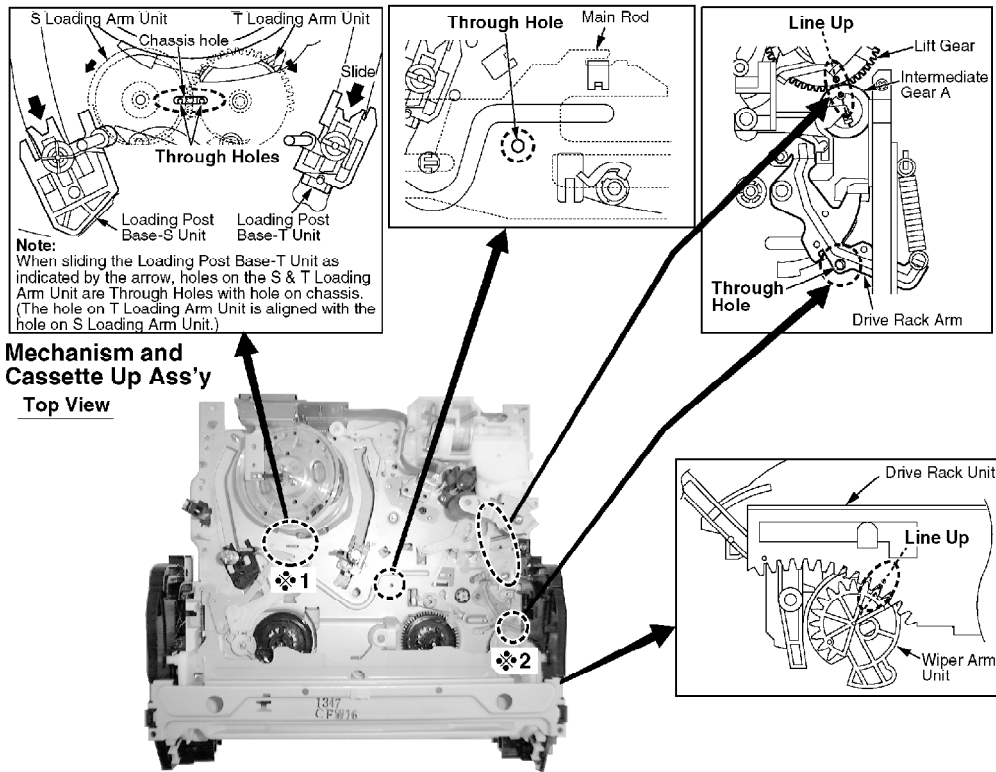
### BOTTOM VIEW



## 6.2.3. EJECT Position Confirmation

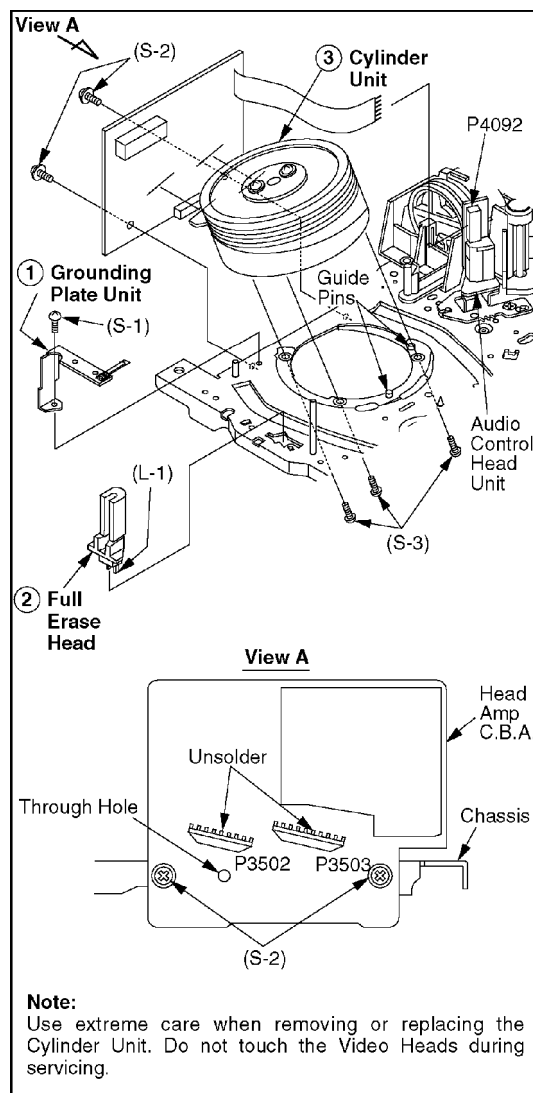
Fig. J1-2

Check the following alignment points to confirm that the Mechanism and Cassette Up Ass'y are in the **EJECT** Position from the top side.



#### 6.2.4. Grounding Plate Unit, Full Erase Head, and Cylinder Unit

Fig. J2-1



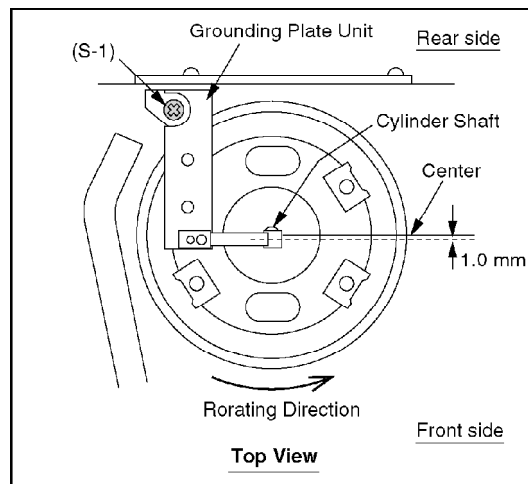
#### 6.2.4.1. Reassembly Notes

### 1. Adjustment of Grounding Plate Unit

**A.** After installing, make sure that the Grounding Plate Unit, on the top side of mechanism chassis, is positioned on the front side of the Cylinder shaft so that the center line of the plate is just less than 1.0 mm measured from the center of the Cylinder shaft. If required, adjust the plate position by loosening Screw (S-1). Never install the Grounding Plate Unit on the rear side of the Cylinder shaft.

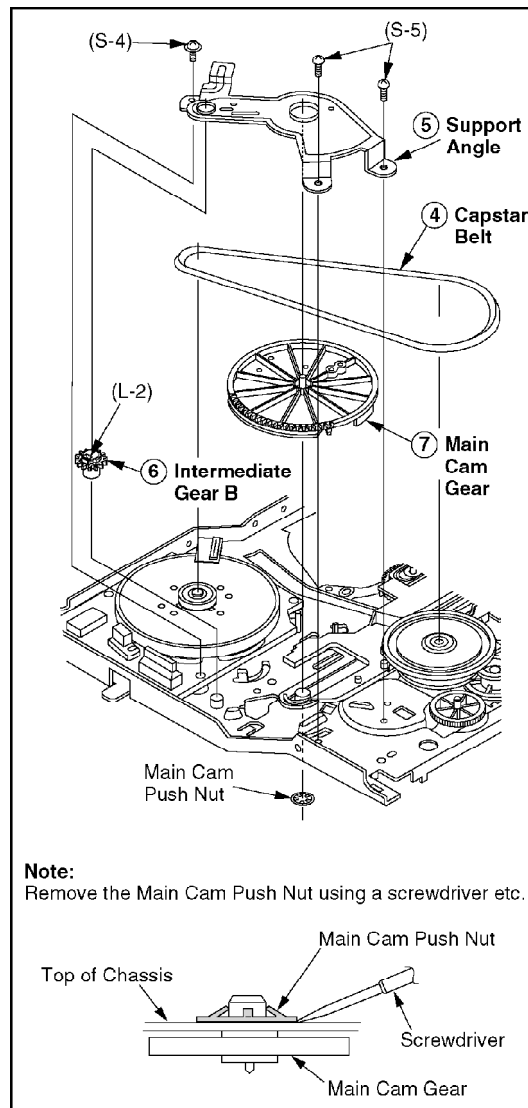
**Incorrect positioning will cause cylinder buzz.**

Fig. J2-2



## 6.2.5. Capstan Belt, Support Angle, Intermediate Gear B, and Main Cam Gear

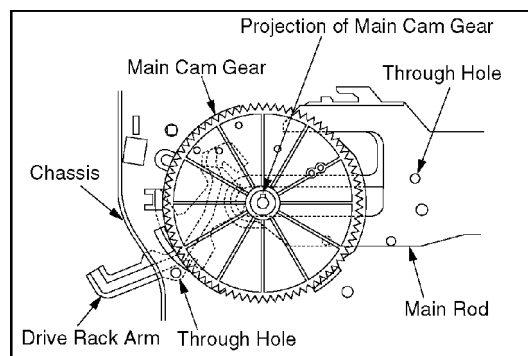
Fig. J3-1



### 6.2.5.1. Reassembly Notes

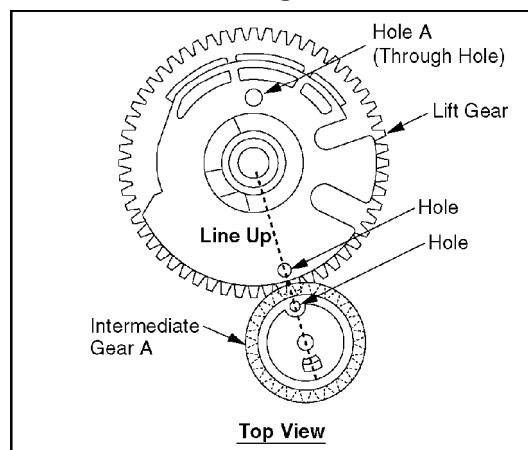
1. **Alignment of Main Cam Gear, Drive Rack Arm, and Main Rod**
  - A. Confirm that the hole on Main Rod is a Through Hole with a hole on chassis.
  - B. Confirm that the hole on Drive Rack Arm is a Through Hole with a hole on chassis.
  - C. Install the Main Cam Gear so that the projection of Main Cam Gear is in the upward position as shown.

**Fig. J3-2**



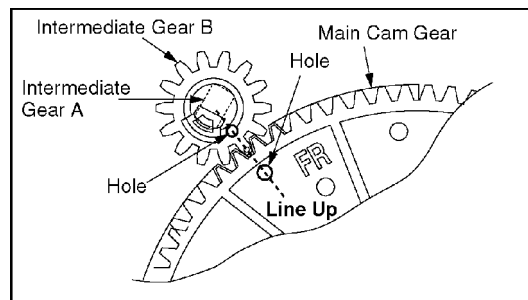
2. **Confirmation/Alignment of Intermediate Gear B, Main Cam Gear, and Intermediate Gear A**
  - A. Confirm that the Hole A on Lift Gear is a Through Hole with a hole on chassis.
  - B. Confirm that the hole on Intermediate Gear A is aligned with the hole on Lift Gear.

**Fig. J3-3**



- C. Install the Intermediate Gear B so that the hole on the Intermediate Gear B is aligned with the hole on the Main Cam Gear.

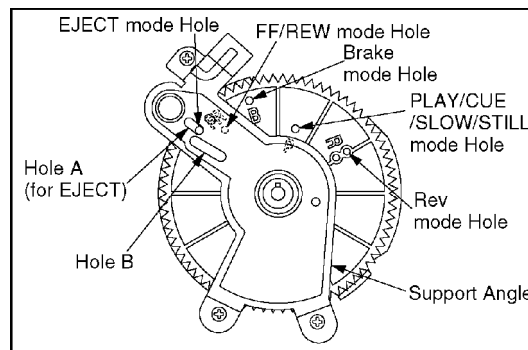
**Fig. J3-4**



### 3. Holes on Main Cam Gear

- A. The EJECT mode Hole on Main Cam Gear should be a Through Hole with Hole A on Support Angle in EJECT mode. The each mode Hole on Main Cam Gear should be a Through Hole with Hole B on SupportAngle in each mode.

Fig. J3-5



### 4. Main Cam Gear Kit

- A. Main Cam Gear is supplied as a Main Cam Gear Kit only (Kit No. VVGS0009).

Main Cam Gear Kit consists of a Main Cam Gear and a Main Cam Push Nut.

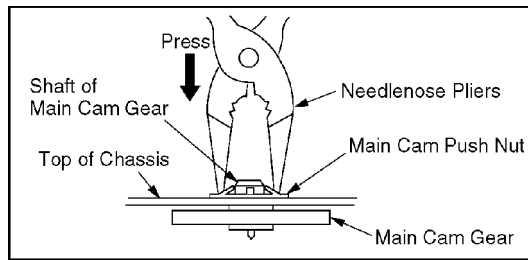
However, Main Cam Push Nut is available separately as a replacement part.

### 5. Installation of Main Cam Gear and Main Cam Push Nut

- A. After installing the Support Angle, install the Main Cam Push Nut with Needlenose Pliers etc. so that it is flush with the chassis.

There may be some slight scratches on the Shaft of Main Cam Gear, when removing the Main Cam Gear. In case that the Main Cam Gear can be installed securely without tottering, it is fine to use the one. If any tottering, install all new parts.

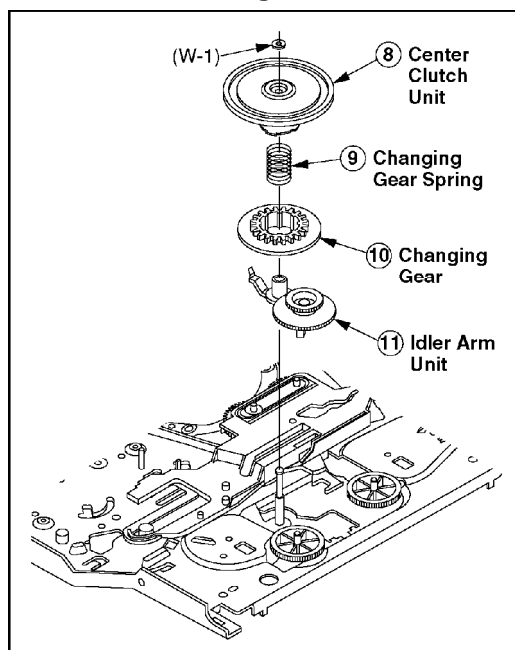
Fig. J3-6



**6. The Main Cam Push Nut is not reusable. Install a new one.**

#### 6.2.6. Center Clutch Unit, Changing Gear Spring, Changing Gear, and Idler Arm Unit

**Fig. J4-1**

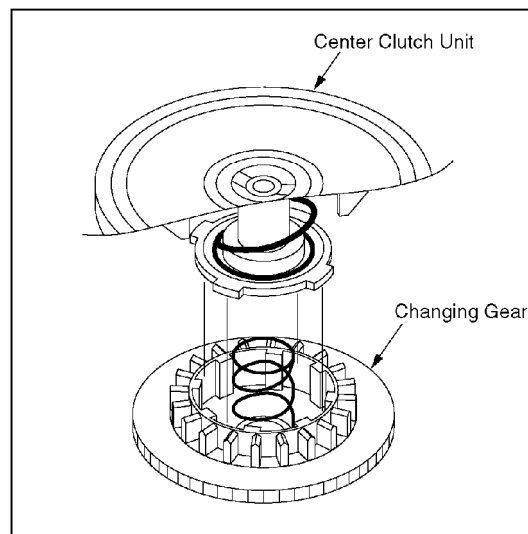


##### 6.2.6.1. Reassembly Notes

#### 1. Installation of Center Clutch Unit

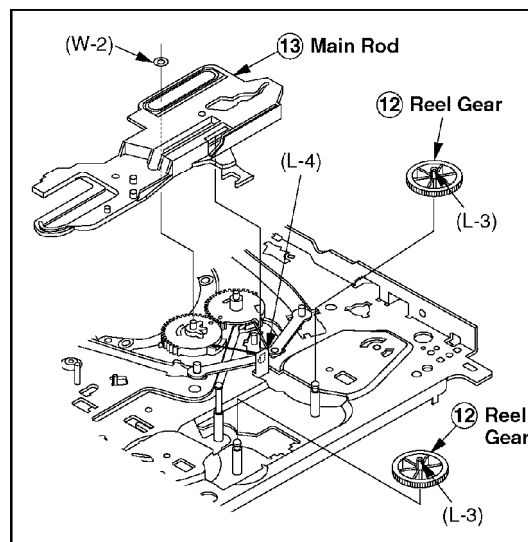
##### A. Fit the Center Clutch Unit into the Changing Gear.

**Fig. J4-2**



### 6.2.7. Reel Gear and Main Rod

Fig. J5-1

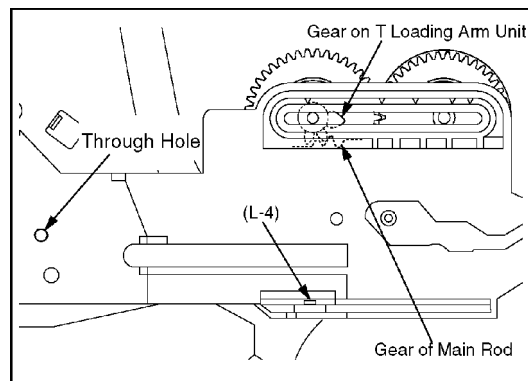


#### 6.2.7.1. Reassembly Notes

1. **Alignment of Main Rod and T Loading Arm Unit**
  - A. **Align the Gear of T Loading Arm Unit with Gear of Main Rod.**  
Confirm that the Hole on Main Rod is a Through Hole with a hole on chassis.

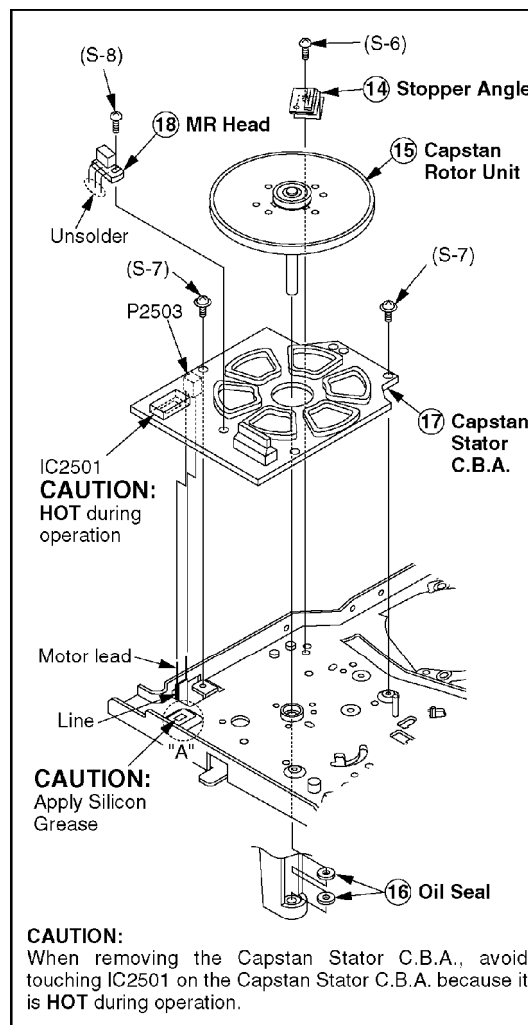
Fig. J5-2





## 6.2.8. Stopper Angle, Capstan Rotor Unit, Oil Seal, Capstan Stator C.B.A., and MR Head

Fig. J6-1



### 6.2.8.1. Reassembly Notes

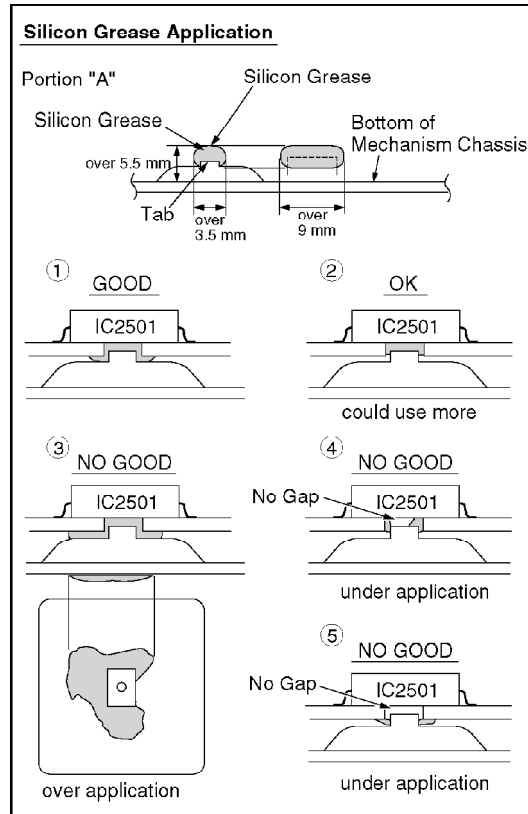
#### 1. Application of Silicon Grease

##### **CAUTION:**

When installing the IC2501 (AN3845SC) or Capstan Stator C.B.A.,

be sure to apply Silicon Grease (VFK1301) as shown. Be careful not to touch other parts with greased portion to prevent grease depletion.

Fig. J6-2

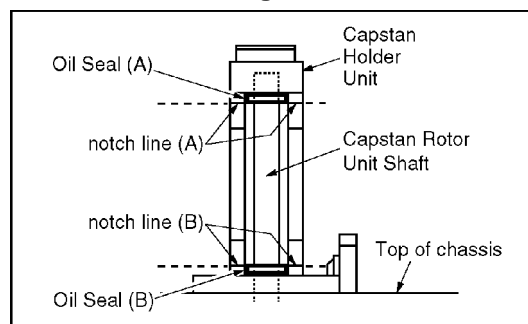


## 2. Installation of Capstan Rotor Unit and Oil Seal

A. Install the 2 Oil Seals into the Capstan Holder Unit. Then, insert the Capstan Rotor Unit Shaft into the hole of the Capstan Holder Unit so that shaft passes through 2 Oil Seals. Be careful not to scratch the Shaft or Capstan Holder Unit.

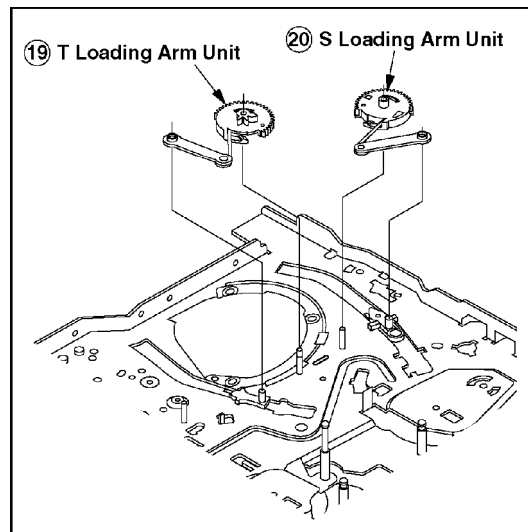
B. Align the bottom of Oil Seal (A) with notch line (A). Align the top of Oil Seal (B) with notch line (B).

Fig. J6-3



### 6.2.9. T Loading Arm Unit and S Loading Arm Unit

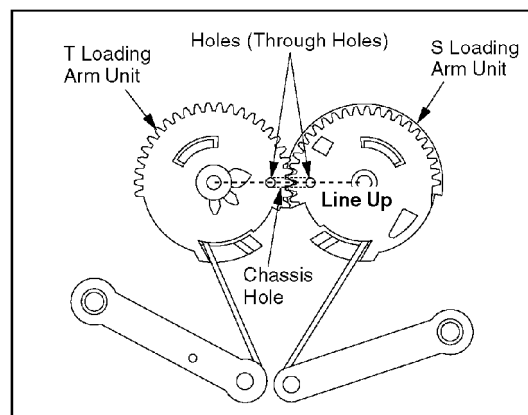
Fig. J7-1



#### 6.2.9.1. Reassembly Notes

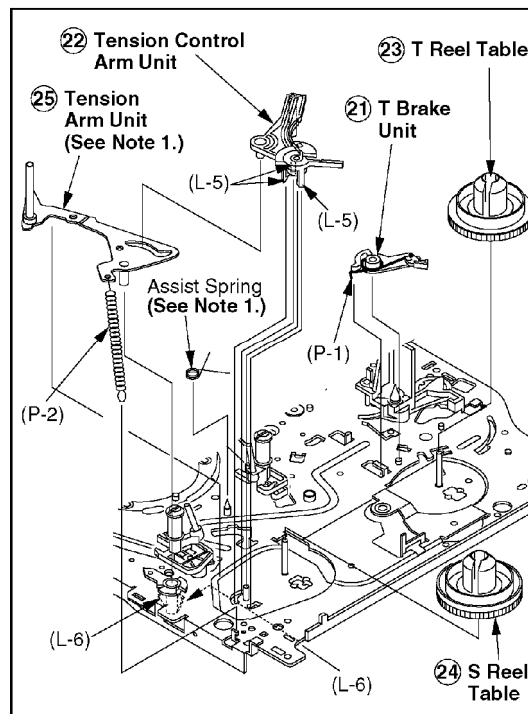
1. **Alignment of T Loading Arm Unit and S Loading Arm Unit**
  - A. Install the S Loading Arm Unit onto the chassis.
  - B. Install the T Loading Arm Unit so that the hole on T Loading Arm Unit is aligned with the hole on S Loading Arm Unit.
  - C. Confirm that the holes on the S& T Loading Arm Unit are Through Holes with hole on chassis.

Fig. J7-2



### 6.2.10. T Brake Unit, Tension Control Arm Unit, T Reel Table, S Reel Table, and Tension Arm Unit

Fig. J8-1



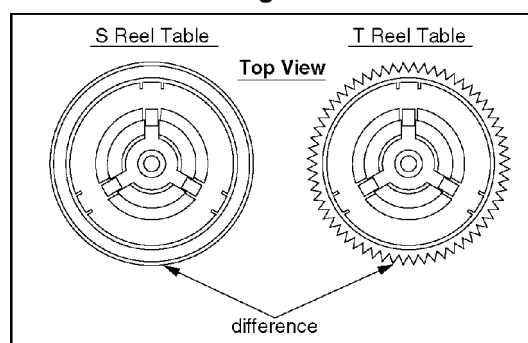
**Note:**

1. Only For early products; the Assist Spring is used.  
When servicing the Assist Spring or the Tension Arm Unit, replace only the Tension Arm Unit with a new one and remove the Assist Spring.

#### 6.2.10.1. Reassembly Notes

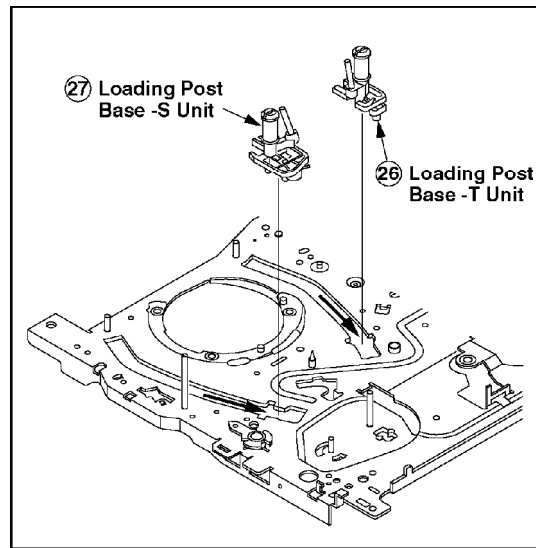
1. How to distinguish between S Reel Table and T Reel Table

**Fig. J8-2**



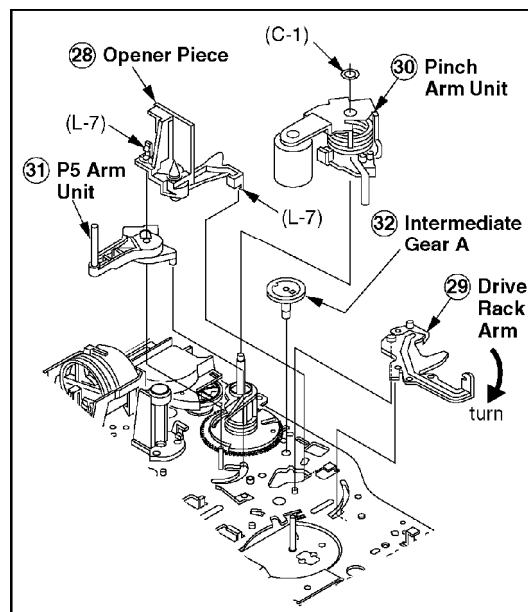
#### 6.2.11. Loading Post Base -T Unit and Loading Post Base -S Unit

**Fig. J9**



## 6.2.12. Opener Piece, Drive Rack Arm, Pinch Arm Unit, P5 Arm Unit, and Intermediate Gear A

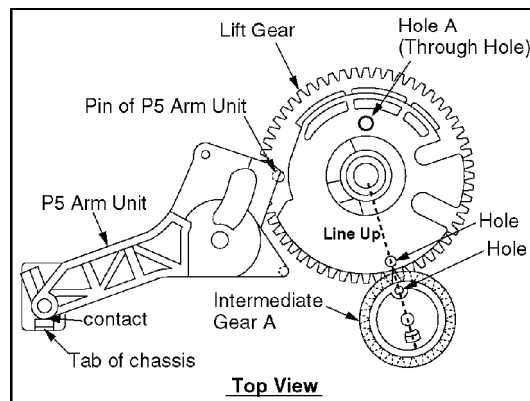
Fig. J10-1



### 6.2.12.1. Reassembly Notes

1. **Installation/Alignment of Intermediate Gear A, Lift Gear and P5 Arm Unit**
  - A. Rotate the Lift Gear so that Hole A on Lift Gear is a Through Hole with a hole on chassis.
  - B. Install the Intermediate Gear A so that the hole on Intermediate Gear A is aligned with the hole on Lift Gear.
  - C. Install the P5 Arm Unit so that it contacts with the tab of chassis.

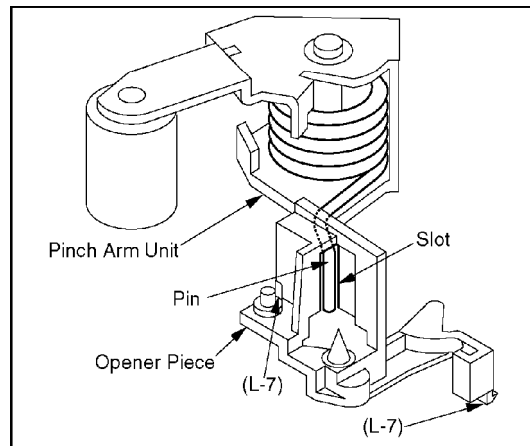
Fig. J10-2



## 2. Installation of Opener Piece

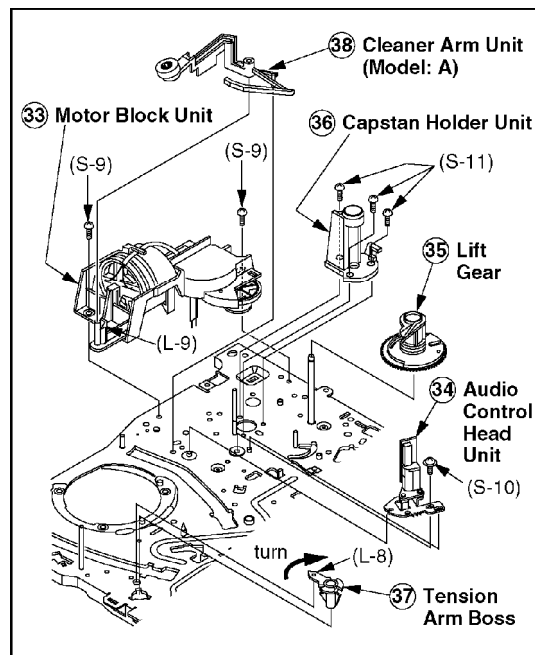
**A. Install the Opener Piece so that the slot of the Opener Piece is inserted to the Pin of Pinch Arm Unit**

**Fig. J10-3**



**6.2.13. Motor Block Unit, Audio Control Head Unit, Lift Gear, Capstan Holder Unit, Tension Arm Boss, and Cleaner Arm Unit (Model: A)**

**Fig. J11**



## 6.3. CASSETTE UP ASS'Y SECTION

This chart indicates Step/Location No. of Parts to be serviced and prior steps to gain access items to be serviced when disassembling. When reassembling, perform the step(s) in the reverse order.

Step/Loc. No.	Prior Step(s)	Part	Fig. No.	Remove	Alignment/Adjustment
①	-----	Top Plate	K1-1	(L-1), (L-2)	
②	1	Wiper Arm Unit	K1-1	2(L-3)	Gear Alignment
③	1,2	Holder Unit	K1-1	-	
④	-----	Opener Lever	K2	2(L-4)	
⑤	1,2,3,4	Drive Rack Unit	K2	-	

↑ A                      ↑ B                      ↑ C                      ↑ D                      ↑ E                      ↑ F

### How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps(s) in reverse order.

These numbers are also used as the identification (location) No. of parts in Figures.

B: Steps to be completed prior to the current step.

C: Part to be removed or installed.

D: Fig. No. showing Procedure or Part Location.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged or unsoldered.

(S-1) = Screw (S-1), (L-1) = Locking Tab (L-1),

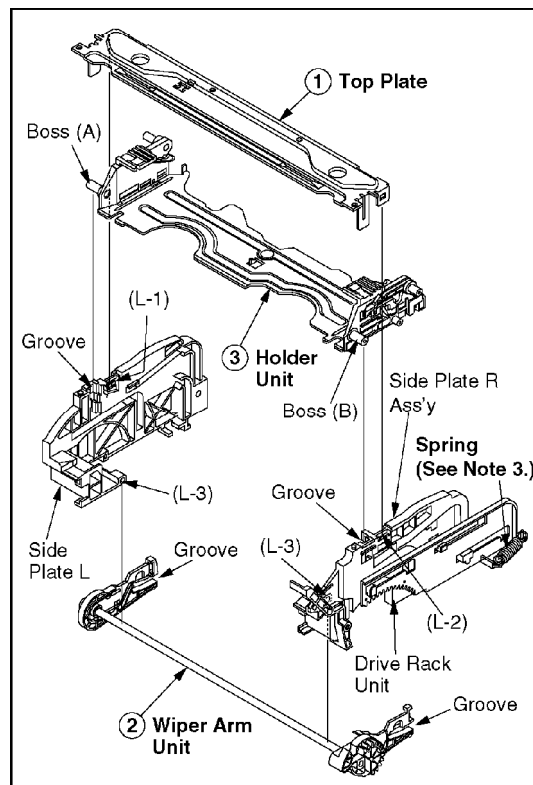
(W-1) = Washer (W-1), (P-1) = Spring (P-1),

(C-1) = Cut Washer (C-1)

F: Alignment/Adjustment which is required when installing or replacing each Parts.

### 6.3.1. Top Plate, Wiper Arm Unit, and Holder Unit

Fig. K1-1



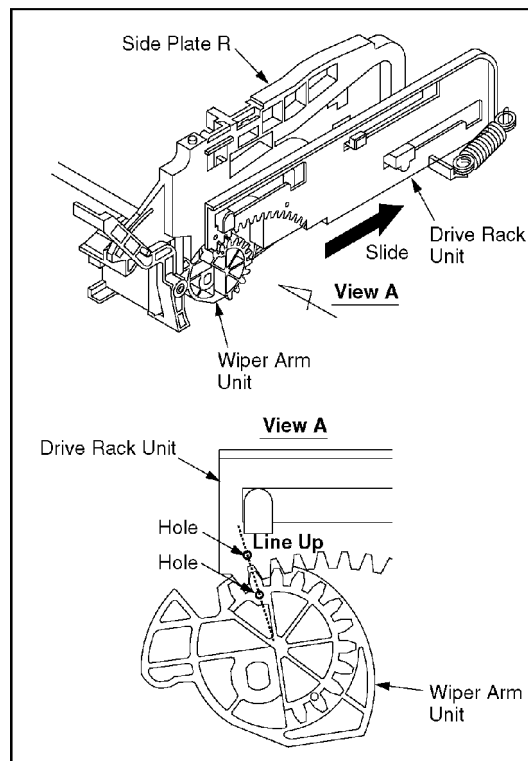
#### 6.3.1.1. Reassembly Notes

### 1. Alignment of Wiper Arm Unit and Drive Rack Unit

- A. Slide the Drive Rack Unit to the far right as indicated by the arrow.
- B. Install the Wiper Arm Unit so that the hole on the Wiper Arm Unit is aligned with the hole on the Drive Rack Unit.

Fig. K1-2

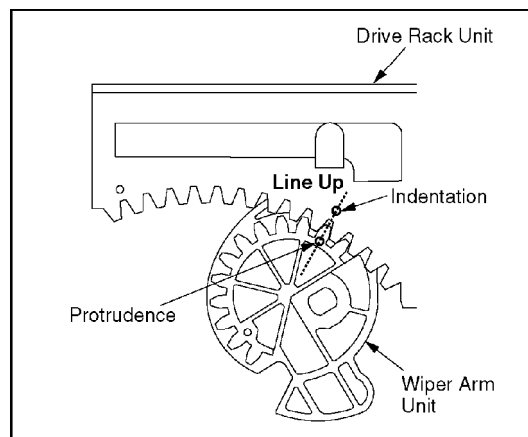




## 2. Installation of Holder Unit

- A. Turn the Wiper Arm Unit so that the grooves on each end are aligned with the each groove on Side Plate L and R.
- B. Insert Holder Unit boss (A) and (B) into the grooves as shown in Fig. K1-1.
- C. Finally, in the EJECTPosition, confirm that the protrudence on the Wiper Arm Unit is aligned with the indentation on the Drive Rack Unit.

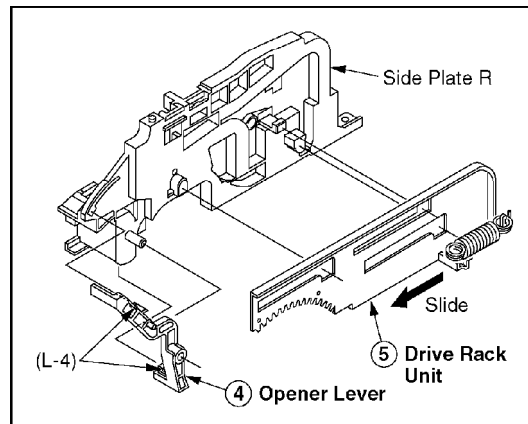
Fig. K1-3



3. Make sure to hook the spring to the Drive Rack Arm of Mechanism chassis.

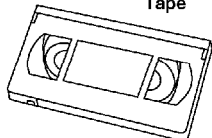
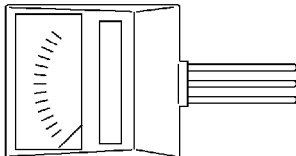
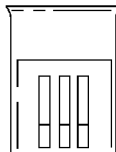
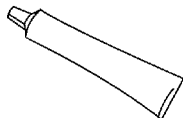



### 6.3.2. Opener Lever and Drive Rack Unit

Fig. K2



## 7. ADJUSTMENT PROCEDURES

### 7.1. SERVICE FIXTURES AND TOOLS

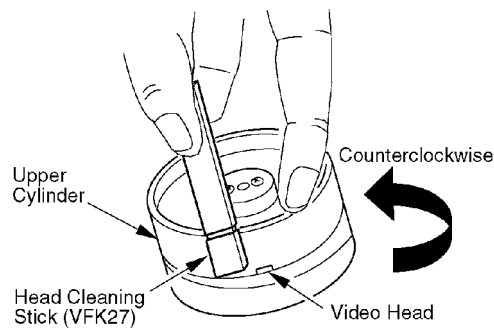
<b>VFMS0003H6</b> <b>VHS Alignment Tape</b>  <table border="1"><tr><td>Video</td><td>Color Bar &amp; Monoscope</td></tr><tr><td>Audio</td><td>6kHz(MONO)</td></tr></table>	Video	Color Bar & Monoscope	Audio	6kHz(MONO)	<b>Back Tension Meter</b> (Made in USA., Purchase Locally) 	<b>VFK27</b> <b>Head Cleaning Stick</b> 
Video	Color Bar & Monoscope					
Audio	6kHz(MONO)					
<b>VFK1301</b> <b>Silicon Grease</b> 	<b>VFKS0081</b> <b>Grease</b> 	<b>VFK0329</b> <b>Post Adjustment Driver</b> 				
<b>VFK0330</b> <b>H-Position Adjustment Driver</b> 						

### 7.2. MECHANICAL ADJUSTMENT

#### 7.2.1. CLEANING PROCEDURE FOR THE UPPER CYLINDER UNIT

1. While slowly turning the Upper Cylinder Unit counterclockwise by hand, gently rub the Video Heads with a Head Cleaning Stick (VFK27) moistened with Ethanol.  
When using a Cleaning Cassette, make sure to use "DRY" type only and be aware that excessive use can shorten head life.

**Fig. M1**



**Note:**

**A. Do not rub vertically or apply excess pressure to the Video Heads.**

**Do not turn the Upper Cylinder Unit clockwise while cleaning.**

**B. After cleaning, use a Dry Head Cleaning Stick (VFK27) to remove any Ethanol remaining on the cylinder tape path. Otherwise, tape damage will occur.**

## **7.2.2. ADJUSTMENT PROCEDURES**

### **7.2.2.1. BACK TENSION CONFIRMATION**

**Purpose:**

**To fine adjust the Back Tension so that the tape runs smoothly with a constant tension.**

**Symptom of Misadjustment:**

- 1) If the tape tension is less than the specified value, the tape cannot come into proper contact with the Video Heads, resulting in poor picture playback.**
- 2) If the tape tension is too high, the tape will soon be damaged.**

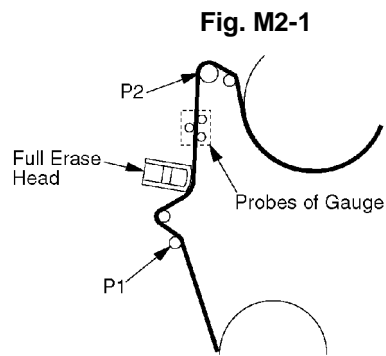
**Equipment Required:**

**Back Tension Meter (Made in U.S.A., Purchase Locally)**  
**VHS Cassette Tape (120-Minute Tape)**

**Specification:**

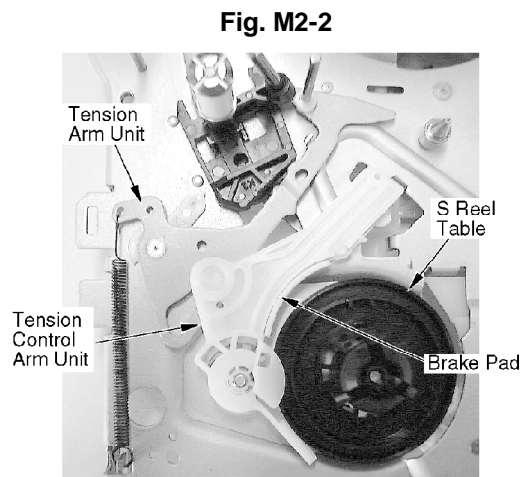
**20 gf $\pm$ 2.5 gf**  
**(0.196 N $\pm$ 0.025 N)**

- 1. Play back a T120 cassette tape from the beginning for approx. 10 to 20 seconds to stabilize tape movement.**
- 2. Insert a Tension Meter into tape path and measure the back tension.**



- 3. If the reading is out of specification, make sure that there is no dust or foreign material between the Brake Pad of Tension Control Arm Unit and the S Reel Table.**

**After cleaning, the reading of tension measurement is still out of specification, replace the Tension Arm Unit and the Tension Control Arm Unit.**



**Note:**

- A. Be sure that the three probes of the meter are all in solid contact with the tape, but not touching any other parts of the mechanism.**
- B. It is recommended that measurements should be repeated at least three (3) times because the tension meter is very sensitive to external vibrations.**

**7.2.2.2. MR HEAD GAP ADJUSTMENT**

**Purpose:**

**To properly pick up the FG Signal.**

**Symptom of Misadjustment:**

If the FG Signal is not properly picked up, Servo Operation cannot be achieved.

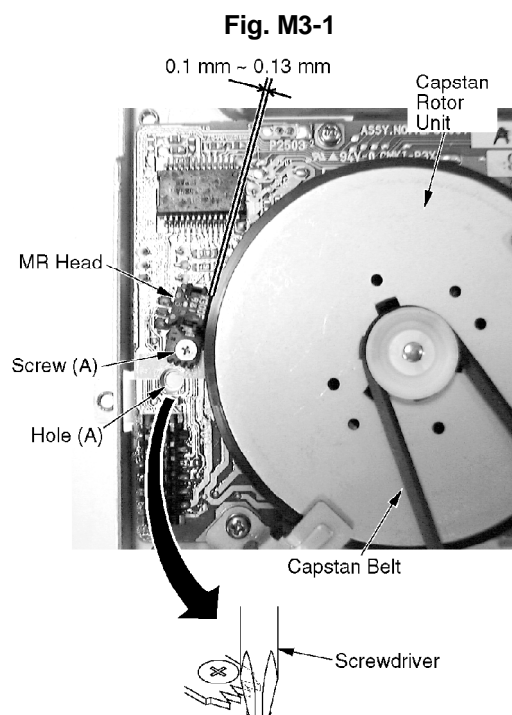
**Equipment Required:**

Oscilloscope

**Specification:**

0.1 mm ~ 0.13 mm

1. Remove the VCR Chassis Unit and then place it upside down.
2. Remove the TV/VCR Main C.B.A.
3. Slightly loosen Screw (A). Then set the Screwdriver (Phillips Driver) into the Hole (A). Turn the screwdriver clockwise until the MR Head touches the rotor. Then turn it slightly counterclockwise to make the clearance as specified.
4. Tighten Screw (A).
5. Reinstall the TV/VCR Main C.B.A.



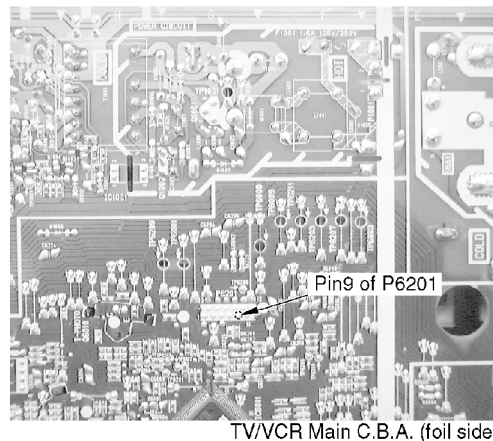
**Note:**

Do not touch the outside circumference of the rotor surface with any tool and keep magnetic material away from the rotor magnet (especially metal particles).

Confirmation of Signal Level

1. Place the unit in Service Position (2). Refer to "**SERVICE POSITION**" in SERVICE NOTES.
2. Supply a Video Signal to the video input jack.
3. Insert a cassette tape and place the unit in SLP recording mode.
4. Connect the oscilloscope to Pin 9 of P6201 on the TV/VCR Main C.B.A. Confirm that the signal level is greater than 20 mV [P-P].

Fig. M3-2



#### 7.2.2.3. TAPE INTERCHANGEABILITY ADJUSTMENT

**Note:**

To perform these adjustment/confirmation procedures, set the tracking to the neutral position.

**Equipment Required:**

Dual Trace Oscilloscope  
VHS Alignment Tape (VFMS0003H6)  
Post Adjustment Driver (VFK0329)  
H-Position Adjustment Driver (VFK0330)

##### 7.2.2.3.1. ENVELOPE OUTPUT ADJUSTMENT

The height of the P2 and P3 Posts replacement part is preadjust at the factory.

**Purpose:**

To achieve a satisfactory picture and secure precise tracking.

**Symptom of Misadjustment:**

If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

### Equipment Required:

#### Post Adjustment Driver (VFK0329)

1. Place a jumper between TP6003 and +5V(TP6009) on the TV/VCR Main C.B.A. to defeat Auto Tracking.
2. Eject the tape and insert it again to access the Neutral Tracking position.
3. Play back the alignment tape.
4. Connect the oscilloscope to TP3002 on the Video Signal Process Section of the TV/VCR Main C.B.A. Use TP6205 as a trigger.
5. Confirm that the RF envelope is flat enough ( $V_1/V_{\text{max}}$  is 0.7 or more). If not, with Post Adjustment Driver, adjust P2 and P3 post height so that the envelope waveform becomes as flat ( $V_1/V_{\text{max}}$  is 0.7 or more) as possible (No envelope drop). If the envelope drop appears on the left-half of the waveform, adjust P2 post height. If the envelope drop appears on the right-half of the waveform, adjust P3 post height.

#### CAUTION:

Overtightening P2 and P3 posts may cause the threads to strip.

#### Note:

It will be possible to confirm Step 5 according to following steps.

- A. Press the Tracking Control Up or Down button on remote control. Make sure that the envelope waveform remains flat. If not, readjust P2 and/or P3 post heights.

Fig. M4-1

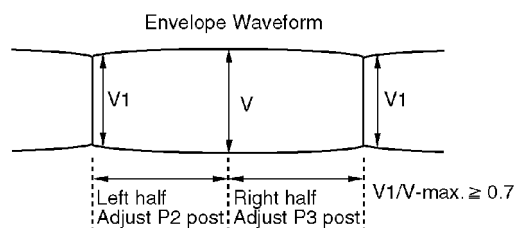
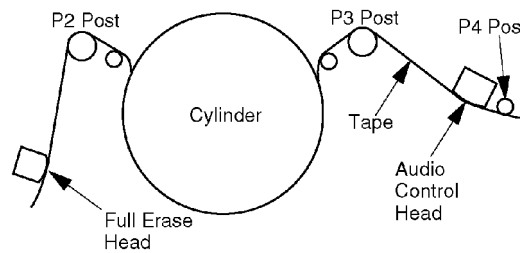
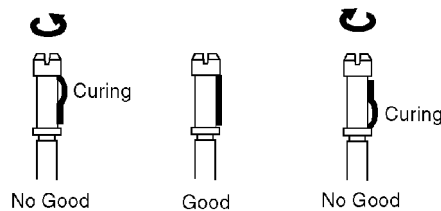


Fig. M4-2



6. After adjustment, confirm that the tape travels without curling at P2 and P3 posts.

Fig. M4-3



7. Remove the jumper after completing the adjustment procedure.

#### 7.2.2.3.2. AUDIO CONTROL HEAD TILT ADJUSTMENT

##### Purpose:

To confirm that the tape runs smoothly. In particular, confirm that the tape properly picks up the Audio Signal at the upper part of the head and the Control Signal at the lower part of the head.

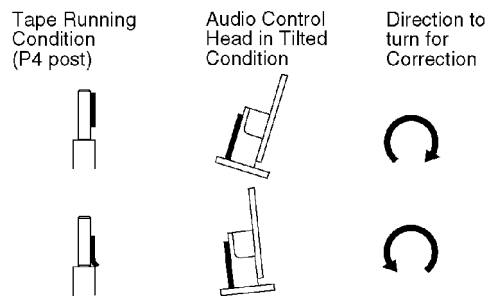
##### Symptom of Misadjustment:

If the tilt of the Audio Control Head is poorly adjusted, the tape will eventually be damaged. An intermittent Blue screen may be seen in Playback.

1. Play back a T120 cassette tape and check that the tape travels smoothly between the upper and lower guides of the P4 post.
2. If necessary, adjust Black Screw (B) clockwise until the tape begins to curl at the lower edge of the P4 post. Then adjust the screw counterclockwise until the curling is eliminated.

Fig. M5





#### 7.2.2.3.3. AUDIO CONTROL HEAD HEIGHT ADJUSTMENT

The height of the Audio Control Head replacement part is preset at the factory.

##### **Purpose:**

**To be sure the tape runs properly along the Control Head.**

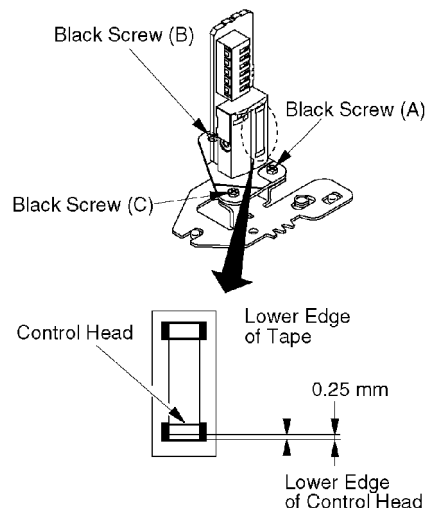
##### **Symptom of Misadjustment:**

**If the control signal is not properly picked up, Servo Operation cannot be achieved. A Blue screen will be seen in Playback.**

This confirmation is required when the Audio Control Head is replaced.

- 1. Play back a T120 cassette tape and check that the lower edge of the tape runs approximately 0.25 mm above the lower edge of the Audio Control Head.**
- 2. If necessary, adjust Black Screws (A) and (B) clockwise to lower the tape or counterclockwise to raise.**

**Fig. M6**



#### 7.2.2.3.4. AUDIO CONTROL HEAD AZIMUTH ADJUSTMENT

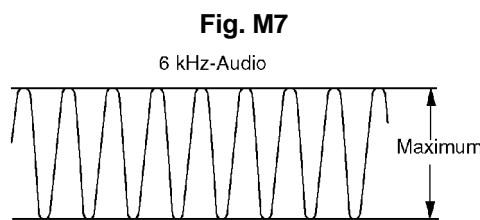
##### **Purpose:**

**To adjust the position and height of the Audio Control Head so that it meets the tape tracks properly.**

**Symptom of Misadjustment:**

If the position of the Audio Control Head is not properly adjusted, the Audio S/N Ratio is poor.

1. Connect the oscilloscope to the TP4002 on the TV/VCR Main C.B.A.
2. Play back the 6 kHz Monaural Audio portion of the alignment tape.
3. Adjust Black Screw (C) on the Audio Control Head base so that the output level is at maximum.



4. Confirm the height of the Audio Control Head is proper. If not, readjust Black Screws (A) and (B).

**7.2.2.3.5. AUDIO CONTROL HEAD HORIZONTAL POSITION ADJUSTMENT**

**Purpose:**

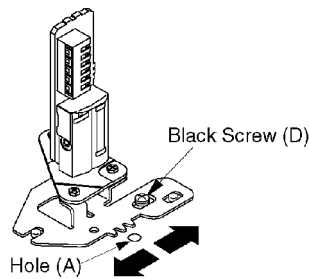
To adjust the Horizontal Position of the Audio Control Head.

**Symptom of Misadjustment:**

If the Horizontal Position of the Audio Control Head is not properly adjusted, a maximum envelope cannot be obtained at the Neutral Position of the Tracking Control Circuit.

1. Place a jumper between TP6003 and +5V (TP6009) on the TV/VCR Main C.B.A. to defeat Auto Tracking.
2. Eject the tape and insert it again to access the Neutral Tracking position.
3. Play back the alignment tape.
4. Connect the oscilloscope to TP3002 on the Video Signal Process Section of the TV/VCR Main C.B.A. Use TP6205 as a trigger.
5. Loosen the Black Screw (D) and tighten it slightly. Set the H-Position Adjustment Driver into the Hole (A). Then slowly turn the fixture either clockwise or counterclockwise so that the envelope is at maximum.

**Fig. M8**



**6. Tighten Black Screw (D).**

**7. Remove the jumper between TP6003 and +5V(TP6009).**

**Note:**

Old type of H-Position Adjustment Driver (VFK0136) can be used for this adjustment.

### **7.3. ELECTRICAL ADJUSTMENT**

**NOTE:**

Following Adjustments have been preadjusted at factory and are not required.

- Purity Adjustment
- Static Central Convergence Adjustment
- Dynamic Convergence Adjustment

#### **7.3.1. TEST EQUIPMENT**

To do all of these electrical adjustments, the following equipment is required.

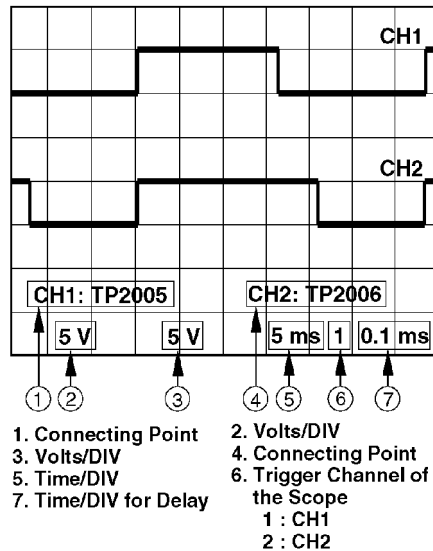
- 1. Dual-Trace Oscilloscope**  
Voltage Range: 0.001 V to 50 V/Div.  
Frequency Range: DC to 50 MHz  
Probes: 10:1, 1:1
- 2. NTSC Video Pattern Generator**
- 3. DVM (Digital Volt Meter)**
- 4. MTS/SAP Signal Generator**  
(TV Multi-Channel Sound Modulator (U.S.A.))
- 5. Frequency Counter**  
Frequency Range: 0 to 150 MHz
- 6. Plastic Tip Driver and Non-Metal Driver**
- 7. Isolation Transformer (Variable)**
- 8. VHS Alignment Tape (VFMS0003H6)**
- 9. Degaussing Coil**

## 10. White Pattern Generator

## 11. Audio Generator

### 7.3.2. HOW TO READ THE ADJUSTMENT PROCEDURES

Fig. E1



### 7.3.3. STEREO/SAP SEPARATION ADJUSTMENT (MODEL: D, E)

#### Purpose:

To separate the L and R Channels of Stereo Signal.

#### Symptom of Misadjustment:

The L and R Channels of Stereo Signal will not be separated properly resulting in no stereophonic effect.

#### Test Point:

TP9001 (Audio C.B.A.)

#### Adjustment:

R9001, R9008 (Audio C.B.A.)

#### Specification:

minimum level

#### INPUT:

Antenna Input Terminal

MTS (ONLY L CH)

300 Hz $\pm$ 5 Hz, 3 kHz $\pm$ 5 Hz

14% or 7% Modulating

#### Mode:

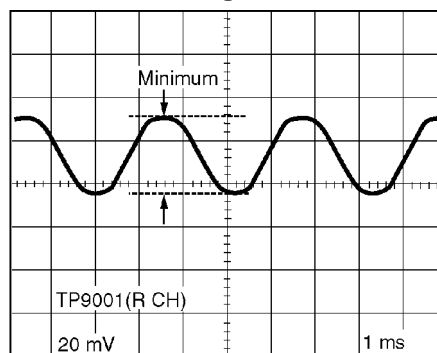
## STEREO audio (TV)

### Equipment:

Oscilloscope, MTS/SAP Signal Generator

1. Set to TV mode, and then set to STEREO audio.
2. Connect the RF OUTPUT of the MTS/SAP Signal Generator to the Antenna Input Terminal.  
Then, set the MTS/SAP Signal Generator as follows.  
MTS (ONLY L CH)  
300 Hz $\pm$ 5 Hz  
14% or 7% Modulating
3. Connect the Oscilloscope to TP9001 on the Audio C.B.A.
4. Adjust R9001 (SEP (L) ) on the Audio C.B.A. so that the signal level of TP9001 is minimum.
5. Set the MTS/SAP Signal Generator as follows.  
MTS (ONLY L CH)  
3 kHz $\pm$ 5 Hz  
14% or 7% Modulating
6. Adjust R9008 (SEP (H) ) on the Audio C.B.A. so that the signal level of TP9001 is minimum.

Fig. E2



### 7.3.4. SEPARATION ADJUSTMENT (MODEL: D, E)

#### Note:

Be sure to perform this adjustment after STEREO/SAP SEPARATION ADJUSTMENT are completed.

#### Purpose:

To separate the L and R Channels of Stereo Signal.

**Symptom of Misadjustment:**

The L and R Channels of Stereo Signal will not be separated properly resulting in no stereophonic effect.

**Test Point:**

TP4202 (Audio C.B.A.)

**Adjustment:**

R9003 (Audio C.B.A.)

**Specification:**

minimum level

**INPUT:**

Antenna Input Terminal

MTS (ONLY L CH)

300 Hz $\pm$ 5 Hz

14% or 7% Modulating

**Mode:**

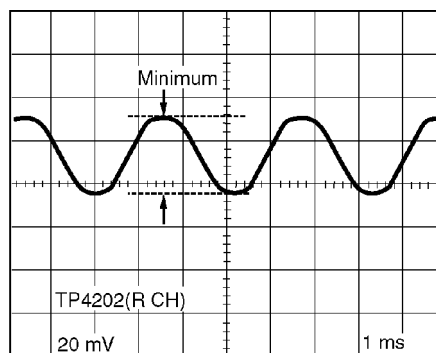
STEREO audio (TV)

**Equipment:**

Oscilloscope, MTS/SAP Signal Generator

1. Connect the RF OUTPUT of the MTS/SAP Signal Generator to the Antenna Input Terminal.
2. Connect the Oscilloscope to TP4202(R CH) on the Audio C.B.A.
3. Set to TV mode, and then set to STEREO audio.
4. Adjust R9003 on the Audio C.B.A. so that the signal level is minimum.

**Fig. E3**



**7.3.5. FM VCO ADJUSTMENT (MODEL: D, E)**

**Purpose:**

To set VCO free run frequency.

**Symptom of Misadjustment:**

Even when stereophony is received, only monaural sound will be output.

**Test Point:**

Pin 25 of P4203, TP9201 (Audio C.B.A.)

**Adjustment:**

R9206 (Audio C.B.A.)

**Specification:**

38.0 kHz $\pm$ 50 Hz

**Input:**

-----

**Mode:**

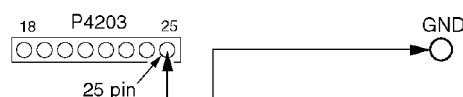
STEREO audio (FM Radio)

**Equipment:**

Frequency Counter

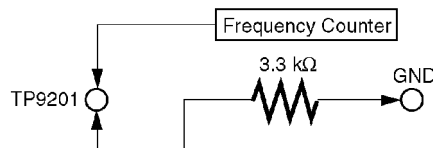
1. Connect Pin 25 of P4203 on Audio C.B.A. to GND.

Fig. E4-1



2. Connect TP9201 on Audio C.B.A. to GND through a resistor (3.3 k $\Omega$ ). Then, connect Frequency Counter to TP9201.

Fig. E4-2



3. Adjust R9206 (FM VCO) so that the frequency is 38.0 kHz $\pm$ 50 Hz.

### 7.3.6. EVR (Electronic Variable Register) ADJUSTMENT WITH THE REMOTE CONTROL

This unit has electronic technology using I2C Bus concept.

The following control functions are adjusted by using "On Screen Displays" and the remote control instead of adjusting mechanical controls (VR).

Control functions	✿ <sup>2</sup> Address	Range	Default
<b>SUB COLOR</b>	00	C0 – FF, 00 – 3F	00
<b>SUB TINT</b>	01	E0 – FF, 00 – 1F	00
<b>SUB BRIGHT</b>	02	C0 – FF, 00 – 3F	F0
CONTRAST	03	C1 – FF, 00	00
SUB SHARPNESS	04	E0 – FF, 00 – 1F	00
<b>R CUT -OFF</b>	05	00 – 7F	1E
<b>G CUT -OFF</b>	06	00 – FD	3C
<b>B CUT -OFF</b>	07	00 – FD	3C
<b>G DRIVE</b>	08	00 – 7F	40
<b>B DRIVE</b>	09	00 – 7F	40
<b>SUB CONTRAST</b>	0A	00 – 0F	06
<b>H CENTER</b>	0B	00 – 0F	08
SUB V	0C	00 – 03	00
<b>V SIZE</b>	0D	00 – 7F	40
<b>V POSITION</b>	0E	00 – 7F	40
ANR CTL	10	00 – EF	89
PICTURE CTL	11	00 – EF	86
VV COLOR ✿ <sup>1</sup>	12	C0 – FF, 00 – 3F	00
VV TINT ✿ <sup>1</sup>	13	E0 – FF, 00 – 1F	00
VV SHARPNESS	14	E0 – FF, 00 – 1F	F8
<b>PG SHIFTER</b>	15	01 – FD	80
FM ANT ✿ <sup>3</sup>	18	00 – 01	00/01

Bold-faced letters → Control functions which need to be adjusted.

Note:

- ✿<sup>1</sup> After "SUB COLOR/SUB TINT ADJUSTMENT" is complete, perform as follows.
  - Write the same value of SUB COLOR (Address 00) to VV COLOR (Address 12).
  - Write the same value of SUB TINT (Address 01) to VV TINT (Address 13).
- ✿<sup>2</sup> Address is not displayed on the TV screen. Other Addresses except above are not used.
- ✿<sup>3</sup> In models for USA, set the Default value of FM ANT to "00." In models for CANADA, set the Default value of FM ANT to "01."

#### 7.3.6.1. EVR ADJUSTMENT ITEM

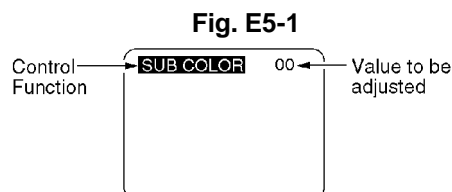
The following Items need to be adjusted for EVR adjustment.

- PG SHIFTER ADJUSTMENT
- SUB CONTRAST ADJUSTMENT
- CUT OFF, DRIVE ADJUSTMENT
- SUB COLOR/SUB TINT ADJUSTMENT
- V. HEIGHT/H. POSITION ADJUSTMENT
- WHITE BALANCE ADJUSTMENT
- SUB BRIGHTNESS ADJUSTMENT

#### 7.3.6.2. HOW TO ENTER EVR ADJUSTMENT MODE

Press and hold STOP, PLAY, and VOL DOWN buttons on the unit together over 5 seconds with no cassette inserted.

The adjustment overlay will appear.



##### 7.3.6.2.1. How to adjust:



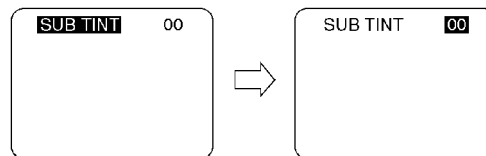
1. Press CH UP/DOWN key on the remote control to select control function to be adjusted.

**Important Note:**

Make a note of the original value of the controls before modifying in case the wrong control is adjusted.

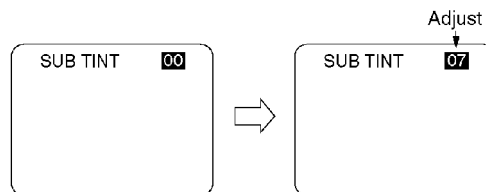
2. Press VOL UP/DOWN key on the remote control so that the shaded area moves to the value.

Fig. E5-2



3. Press CH UP/DOWN key on the remote control to adjust the value of the selected control.

Fig. E5-3

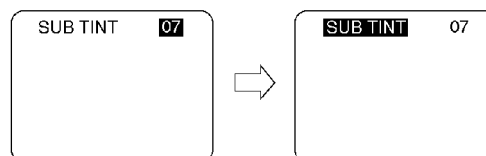


**Note:**

You can select a desired channel by using the numbered keys on the remote control in EVR adjustment mode.

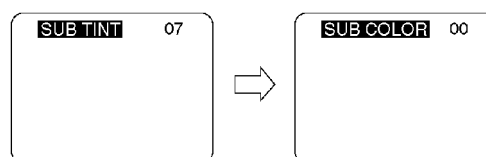
4. Press VOL UP/DOWN key on the remote control so that the shaded area moves to the control function.

Fig. E5-4



5. Press CH UP/DOWN key on the remote control to select a control function for the next adjustment if necessary.

Fig. E5-5



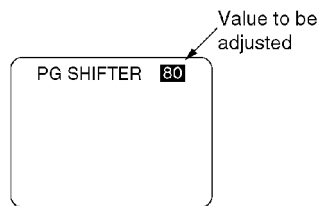
**7.3.6.2.2. How to release from EVR Adjustment Mode:**

Press and hold STOP, PLAY, and VOL DOWN buttons on the unit together over 5 seconds again or press the POWER button OFF. The adjusted value will be written to Memory IC (IC6004).

#### 7.3.6.3. HOW TO ENTER EVR PG SHIFTER ADJUSTMENT MODE

1. Enter EVR adjustment mode.
2. Insert the VHS Alignment Tape and playback in SP mode.  
The adjustment overlay will appear.

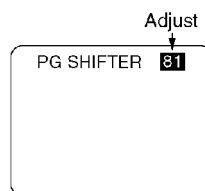
Fig. E5-6



##### 7.3.6.3.1. How to adjust:

Press CH UP/DOWN key on the remote control to adjust the value.

Fig. E5-7



##### 7.3.6.3.2. How to release from EVR PG Shifter Adjustment Mode:

Press STOP button or press the POWER button OFF.

The adjusted value will be written to Memory IC (IC6004).

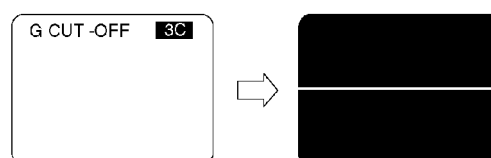
#### 7.3.6.4. HOW TO ENTER SERVICE MODE

1. Enter EVR adjustment mode.
2. Press DISPLAY key on the remote control for collapse scan.

##### Note:

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value for adjustments you will proceed.

Fig. E5-8



##### 7.3.6.4.1. How to release from Service Mode:

Press DISPLAY key again on the remote control.

#### 7.3.7. PG SHIFTER ADJUSTMENT

**Purpose:**

**Determine the Video Head Switching Point during Playback.**

**Symptom of Misadjustment:**

**May cause Head Switching Noise and/or Vertical Jitter.**

**Test Point:**

**TP3001 (TV/VCR Main C.B.A.),**

**TP6205 (TV/VCR Main C.B.A.)**

**Adjustment:**

**PG SHIFTER (EVR)**

**Specification:**

**$T = 6 H \pm 1 H$  (0.38 ms  $\pm$  0.06 ms)**

**Input:**

-----

**Mode:**

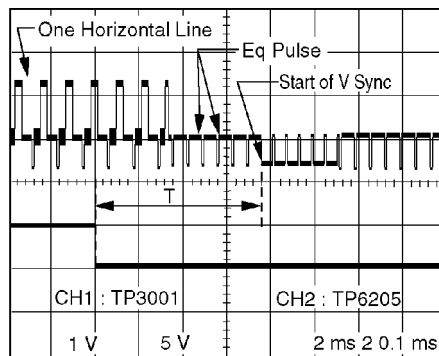
**SP Playback**

**Equipment:**

**Oscilloscope, VHS Alignment Tape (VFMS0003H6)**

- 1. Enter EVR PG Shifter Adjustment mode, refer to "[HOW TO ENTER EVR PG SHIFTER ADJUSTMENT MODE.](#)"**
- 2. Connect the channel-1 scope probe to TP3001 and the channel-2 scope probe to TP6205. Use TP6205 as a trigger.**
- 3. Adjust value so that the trailing edge of the head switching pulse is placed  $6 H \pm 1 H$  (0.38 ms  $\pm$  0.06 ms) before the start of the vertical sync pulse.**
- 4. Release EVR PG Shifter Adjustment Mode.**  
**The adjusted value will be written to Memory IC (IC6004).**

**Fig. E6**



### 7.3.8. SUB CONTRAST ADJUSTMENT

#### Purpose:

To set the optimum sub contrast level.

#### Symptom of Misadjustment:

The picture is too dark or too light.

#### Test Point:

Pin 5 of P8001 (TV/VCR Main C.B.A.)  
or TP49 (CRT C.B.A.)

#### Adjustment:

SUB CONTRAST (EVR)

#### Specification:

3.0 V[p-p]±0.1 V[p-p]

#### Input:

Video Input Jack, Crosshatch Pattern Signal 1 V[p-p] (75  $\Omega$  terminated)

#### Mode:

STOP

#### Equipment:

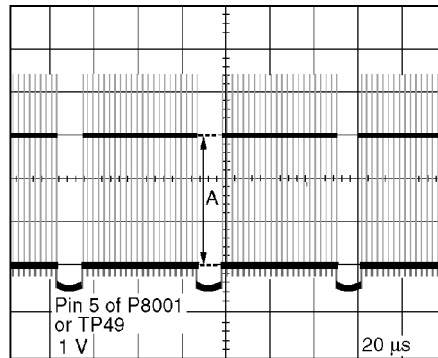
Oscilloscope, NTSC Video Pattern Generator

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to Pin 5 of P8001 on the TV/VCR Main C.B.A. or TP49 on the CRT C.B.A.
3. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the (D0).
4. Select SUB CONTRAST in EVR adjustment mode and adjust so

that the level A is 3.0 V[p-p]±0.1 V[p-p].

5. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

Fig. E7



### 7.3.9. FOCUS, SCREEN, CUT OFF, DRIVE ADJUSTMENT

#### Purpose:

To set the optimum Focus and Screen.

#### Symptom of Misadjustment:

The picture is out of Focus and there will be an improper screen color mix.

#### Test Point:

TP50 (CRT C.B.A.)

#### Adjustment:

FOCUS CONTROL (Flyback Transformer),  
SCREEN CONTROL (Flyback Transformer),  
SUB BRIGHT (EVR),  
B DRIVE (EVR),  
R DRIVE (EVR),  
B CUT -OFF (EVR),  
G CUT -OFF (EVR),  
R CUT -OFF (EVR)

#### Specification:

Refer to descriptions below.

#### Input:

Video Input Jack  
Monoscope Pattern Signal

**Mode:**

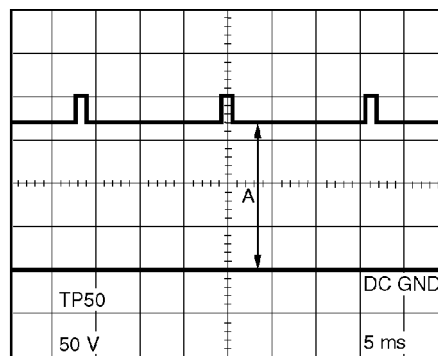
**STOP**

**Equipment:**

**Oscilloscope, NTSC Video Pattern Generator**

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to TP50 on the CRT C.B.A.  
(Use TP47 for GND.)
3. Select SUB BRIGHT and move the shaded area to the value in EVR adjustment mode.
4. Adjust the FOCUS CONTROL on the Flyback Transformer so that the center of picture is the sharpest.
5. Turn the SCREEN CONTROL on the Flyback Transformer fully counterclockwise.
6. Press DISPLAY key (Service Switch) on the remote control for collapse scan. (Refer to **HOW TO ENTER SERVICE MODE.**)
7. Adjust SUB BRIGHT in EVR adjustment mode so that the level A is 180 VDC $\pm$ 5 VDC.

**Fig. E8**



8. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where any color is first observed.
9. In EVR adjustment mode, select the two colors not observed in step 8 from the following control functions (B CUT -OFF, G CUT -OFF, or R CUT -OFF) and adjust so that the horizontal line becomes white.  
For example, if the horizontal line appeared red in step 8, select

- and adjust the B CUT -OFF and G CUT -OFF.
10. Press DISPLAY key on the remote control again to return for full frame scan.
  11. Select SUB BRIGHT in EVR adjustment mode and adjust so that the picture has adequate brightness.
  12. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.

**Note:**

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

### **7.3.10. SUB COLOR/SUB TINT ADJUSTMENT**

**Purpose :**

To set the standard color phase.

**Symptom of Misadjustment :**

Color phase will be shifted.

**Test Point:**

Pin 5 of P8001 (TV/VCR Main C.B.A.)  
or TP49 (CRT C.B.A.)

**Adjustment:**

SUB COLOR (EVR), SUB TINT (EVR)

**Specification:**

$C = 1.50 \text{ V[p-p]} \pm 0.15 \text{ V[p-p]}$

**Input:**

Video Input Jack, Rainbow Color Bar

**Mode:**

STOP

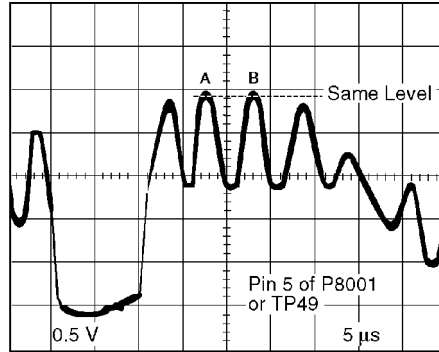
**Equipment:**

Oscilloscope, NTSC Video Pattern Generator

1. Supply the Rainbow Color Bar signal to Video Input Jack.
2. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the minimum (C0).

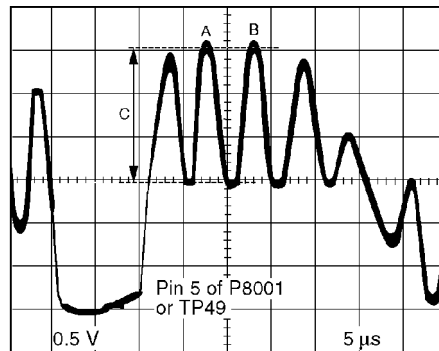
3. Connect the Oscilloscope to Pin 5 of P8001 on the TV/VCR Main C.B.A. or TP49 on the CRT C.B.A.
4. Select SUB TINT in EVR adjustment mode and adjust so that level A and B should be equal in amplitude.

Fig. E9-1



5. Select SUB COLOR in EVR adjustment mode and adjust so that the level C is  $1.50 \text{ V[p-p]} \pm 0.15 \text{ V[p-p]}$ .

Fig. E9-2



6. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

**Note:**  
After "SUB COLOR/SUB TINT ADJUSTMENT" is complete, perform as follows.

- Write the same value of SUB COLOR (Address 00) to VV COLOR (Address 12).
- Write the same value of SUB TINT (Address 01) to VV TINT (Address 13).

### 7.3.11. V. HEIGHT/H. POSITION ADJUSTMENT

#### Purpose :

To set the standard vertical and horizontal picture size.

#### Symptom of Misadjustment :

The picture size is on the vertical and horizontal axis is abnormal.



**Test Point:**

-----

**Adjustment:**

**V SIZE (EVR),  
H CENTER (EVR),  
V POSITION (EVR)**

**Specification:**

**Refer to descriptions below.**

**Input:**

**Video Input Jack, Monoscope Pattern Signal**

**Mode:**

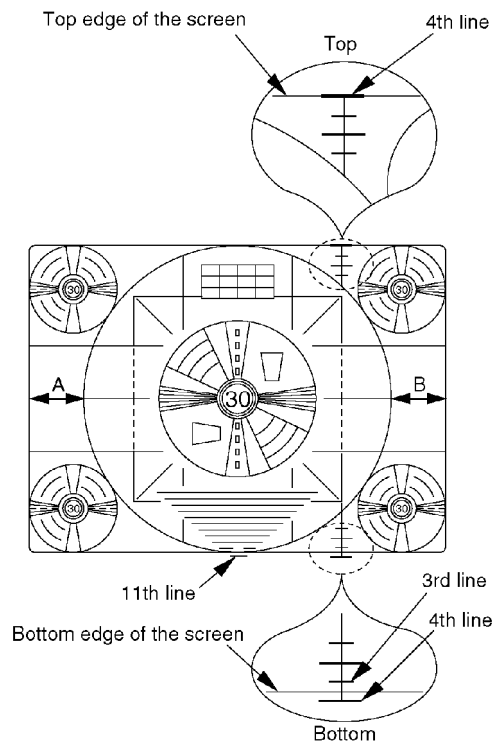
**STOP**

**Equipment:**

**NTSC Video Pattern Generator**

- 1. Supply a Monoscope Pattern Signal to the Video Input Jack.**
- 2. Select H CENTER in EVR adjustment mode and adjust so that A is approximately equal to width B.**
- 3. Select V SIZE in EVR adjustment mode and adjust so that the top 4th line is just in view.**
- 4. Confirm that the bottom 3rd line is in view and that the bottom 4th line is out of view.**  
**If the line are not positioned correctly, select V POSITION in adjustment mode and adjust correctly.**

**Fig. E12**



### 7.3.12. WHITE BALANCE ADJUSTMENT

#### Purpose:

To set the standard white level for each color temperature.

#### Symptom of Misadjustment :

White becomes bluish or reddish.

#### Test Point:

TP50 (CRT C.B.A)

#### Adjustment:

**FOCUS CONTROL (Flyback Transformer),**  
**SCREEN CONTROL (Flyback Transformer),**  
**SUB BRIGHT (EVR),**  
**G DRIVE (EVR),**  
**B DRIVE (EVR),**  
**R CUT -OFF (EVR),**  
**G CUT -OFF (EVR),**  
**B CUT -OFF (EVR)**

#### Specification:

Refer to descriptions below.

**Input:**

**Video Input Jack, Monoscope Pattern Signal,  
White Pattern Signal**

**Mode:**

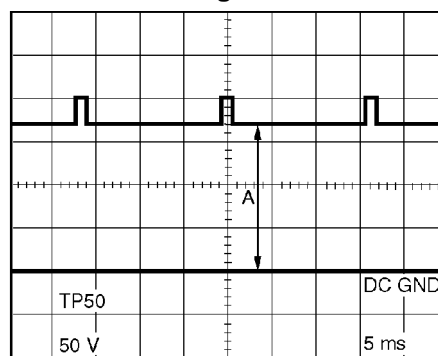
**STOP**

**Equipment:**

**NTSC Video Pattern Generator,  
White Pattern Generator, Oscilloscope**

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to TP50 on the CRT C.B.A.  
(Use TP47 for GND.)
3. Select SUB BRIGHT and move the shaded area to the value in EVR adjustment mode.
4. Adjust the FOCUS CONTROL on the Flyback Transformer so that the center of picture is the sharpest.
5. Press DISPLAY key (Service Switch) on the remote control for collapse scan. (Refer to **HOW TO ENTER SERVICE MODE.**)
6. Turn the SCREEN CONTROL on Flyback Transformer fully counterclockwise.
7. Adjust SUB BRIGHT in EVR adjustment mode so that the level A is 185 VDC $\pm$ 5 VDC.

**Fig. E13**



8. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where any color is first observed.
9. In EVR adjustment mode, select the two colors not observed in

step 8 from the following control functions (B CUT -OFF, G CUT -OFF, or R CUT -OFF) and adjust so that the horizontal line becomes white.

For example, if the horizontal line appeared red in step 8, select and adjust the B CUT -OFF and G CUT -OFF.

10. Supply a White Pattern Signal to the Video Input Jack.
11. Press DISPLAY key on the remote control again to return for full frame scan.
12. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.
13. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the minimum (C0) and while turning SUB BRIGHT value from minimum (C0) up to maximum (3F), confirm that the screen is tracking the White Pattern properly. Repeat the above steps 5, 9, 11, and 12 until the screen is properly tracking the White Pattern.

**Note:**

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

### 7.3.13. SUB BRIGHTNESS ADJUSTMENT

**Purpose :**

To set the optimum brightness level.

**Symptom of Misadjustment :**

The picture is too white or too black.

**Note:**

Perform this adjustment in a darkened room.

**Test Point:**

-----

**Adjustment:**

SUB BRIGHT (EVR)

**Specification:**

Refer to descriptions below.

**Input:**

-----

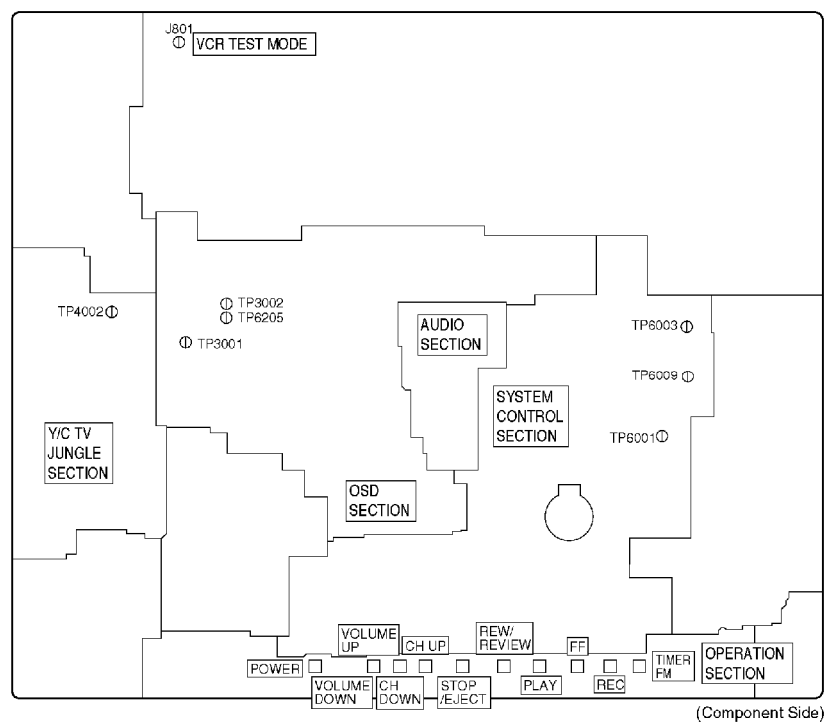
**Mode:**

**STOP**

1. Do not input any signal to the unit.
2. Set INPUT SELECT item to LINE in SET UP TV menu to display black screen.
3. Select SUB BRIGHT in EVR adjustment mode, and adjust so that the black screen starts to turn grey (lighting only).

#### **7.4. TEST POINTS AND CONTROL LOCATION**

## Main C.B.A.

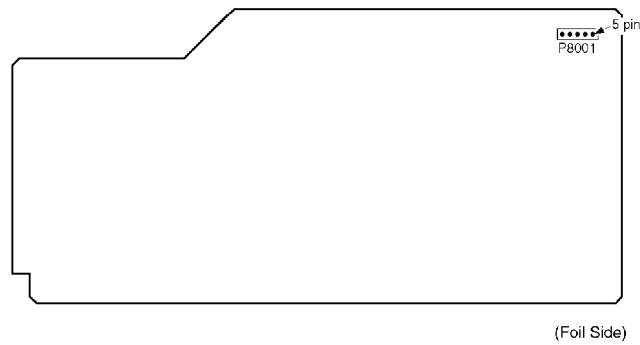


FUNCTION OF IMPORTANT TEST POINTS	
TP3001	Video Signal
TP3002	REC/PB Video envelope signal
TP4002	Normal Audio signal
TP6001	Service Test Point (inhibit sensors)
TP6003	Defeat Auto tracking function (connect to +5V(TP6009))
TP6009	+5V
TP6205	Head SW.

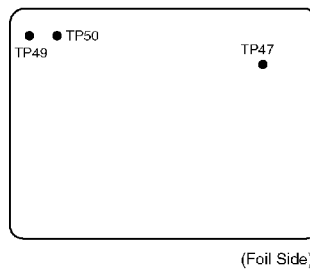
### Test Point Information

- Test Point with a Test Pin.
- ⊕ Test Point with a jumper wire across a hole in the P.C.B.

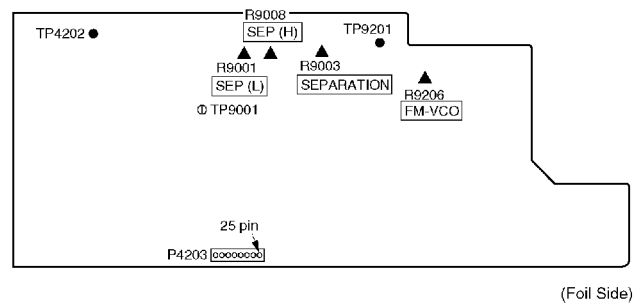
### VCJ C.B.A.



### CRT C.B.A.



### Audio C.B.A. (Model: D, E)



## 8. SCHEMATIC DIAGRAMS

### 8.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

### 8.2. MAIN I (SYSTEM CONTROL/SERVO/OPERATION/CYLINDER DRIVE) SCHEMATIC DIAGRAM

### 8.3. MAIN II (SIGNAL PROCESS/OSD/AUDIO) SCHEMATIC DIAGRAM

### 8.4. MAIN III SCHEMATIC DIAGRAM

### 8.5. MAIN IV (AUDIO AMP) SCHEMATIC DIAGRAM

**8.6. MAIN V (POWER SUPPLY) SCHEMATIC DIAGRAM**

**8.7. MAIN VI/ TV POWER SCHEMATIC DIAGRAM**

**8.8. MAIN VII (DEMODULATOR) SCHEMATIC DIAGRAM**

**8.9. MAIN VIII SCHEMATIC DIAGRAM**

**8.10. AUDIO SCHEMATIC DIAGRAM (D, E)**

**8.11. TV PROCESS SCHEMATIC DIAGRAM**

**8.12. VERTICAL SCHEMATIC DIAGRAM**

**8.13. HEAD AMP SCHEMATIC DIAGRAM (A)**

**8.14. HEAD AMP SCHEMATIC DIAGRAM (B, C)**

**8.15. Hi-Fi AUDIO/VIDEO HEAD AMP SCHEMATIC DIAGRAM (D, E)**

**8.16. CRT SCHEMATIC DIAGRAM**

**8.17. CAPSTAN STATOR SCHEMATIC DIAGRAM**

**8.18. INTERCONNECTION SCHEMATIC DIAGRAM**

**8.19. SIGNAL WAVEFORM**

**8.20. VOLTAGE CHART**

## **9. CIRCUIT BOARD LAYOUT**

**9.1. TV/VCR MAIN C.B.A.**

**9.2. AUDIO C.B.A. (D, E)**

**9.3. TV PROCESS C.B.A.**

**9.4. VERTICAL C.B.A./ TV POWER C.B.A./ CAPSTAN STATOR C.B.A.**

**9.5. HEAD AMP C.B.A. (A, B, C)/ Hi-Fi AUDIO/VIDEO HEAD AMP C.B.A. (D, E)/ CRT C.B.A.**

## **10. BLOCK DIAGRAMS**

**10.1. POWER SUPPLY BLOCK DIAGRAM**

**10.2. VIDEO SIGNAL PATH BLOCK DIAGRAM**



**10.3. AUDIO SIGNAL PATH BLOCK DIAGRAM**

**10.4. TV STEREO SIGNAL PATH BLOCK DIAGRAM**

**10.5. Hi-Fi AUDIO SIGNAL PATH BLOCK DIAGRAM**

**10.6. SYSTEM CONTROL BLOCK DIAGRAM**

**10.7. SERVO BLOCK DIAGRAM**

**10.8. TV/YC PROCESS BLOCK DIAGRAM**

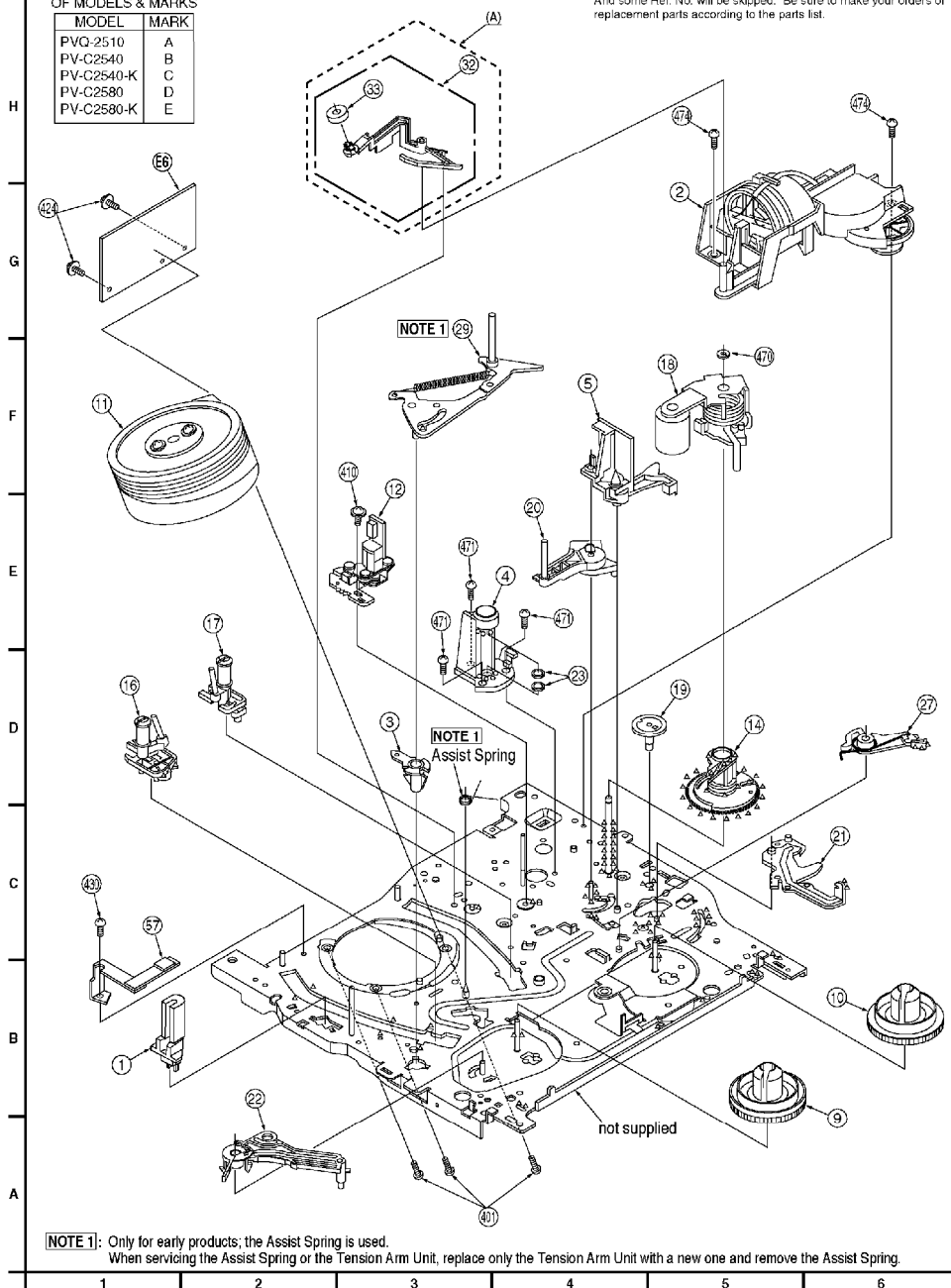
## **11. EXPLODED VIEWS**

**11.1. MECHANISM (TOP) SECTION**

## 1 MECHANISM (TOP) SECTION

COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E



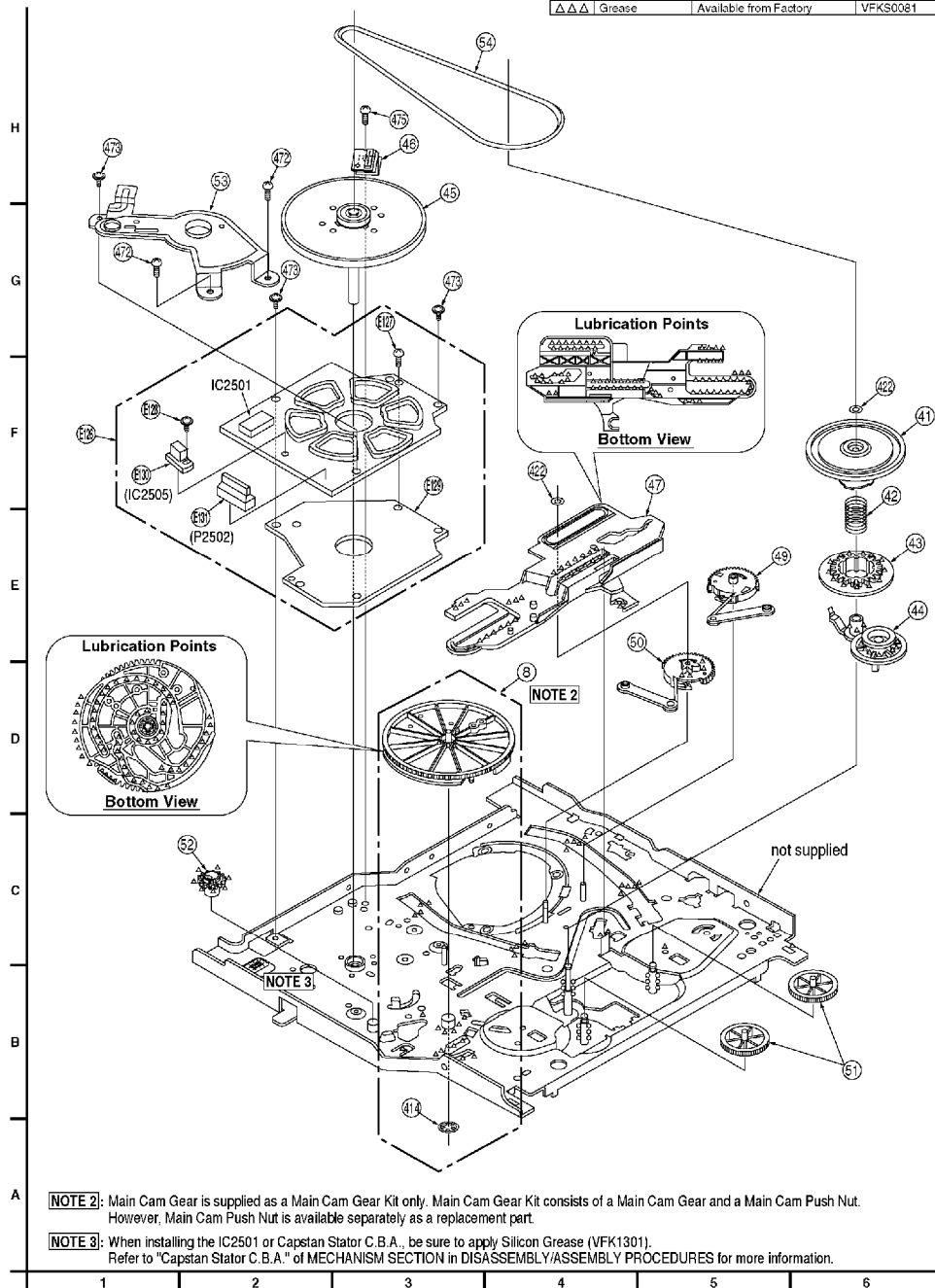
## 11.2. MECHANISM (BOTTOM) SECTION

## ② MECHANISM (BOTTOM) SECTION

### LUBRICATION POINTS

When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
X X X	Silicon Grease	Available from Factory	VFK1301
O O O	Spindle Oil	Purchase from Local Supplier	
Δ Δ Δ	Grease	Available from Factory	VFKS0081

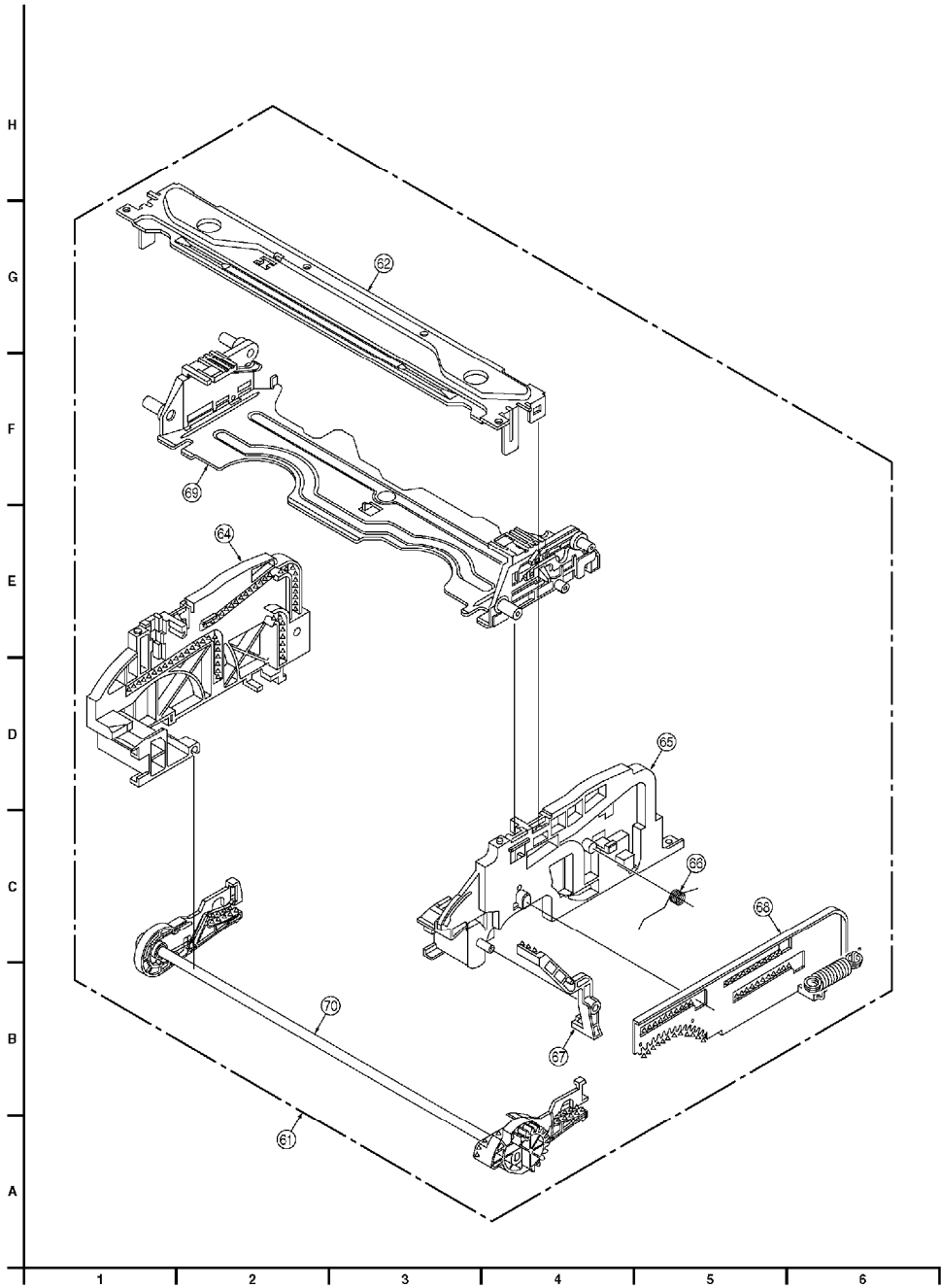


## 11.3. CASSETTE UP COMPARTMENT SECTION

### ③ CASSETTE UP COMPARTMENT SECTION

LUBRICATION POINTS  
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
△△△	Grease	Available from Factory	VFKS0081

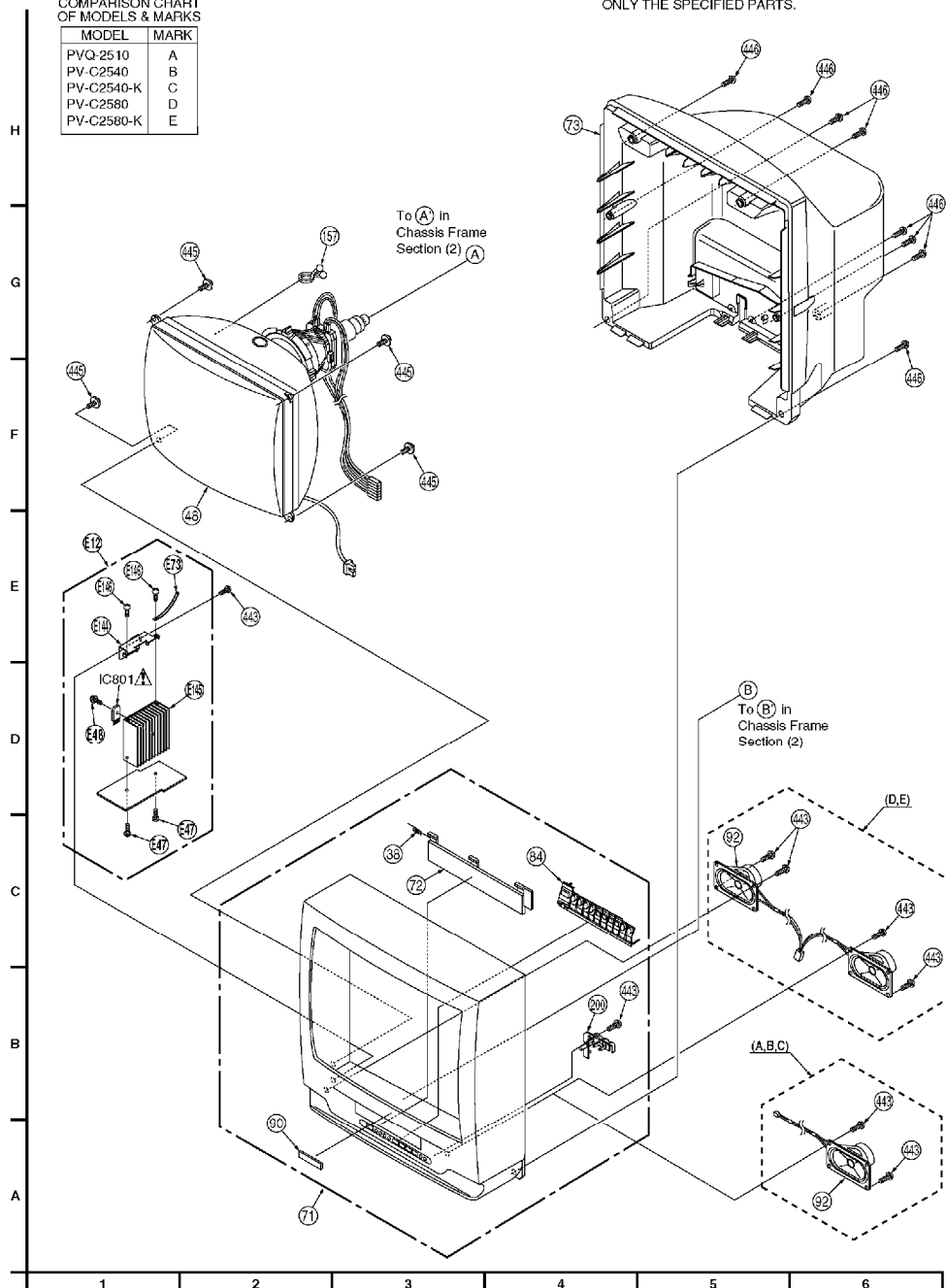



## 11.4. CHASSIS FRAME SECTION (1)

## 4 CHASSIS FRAME SECTION (1)

COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E




**IMPORTANT SAFETY NOTICE**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

## 11.5. CHASSIS FRAME SECTION (2)

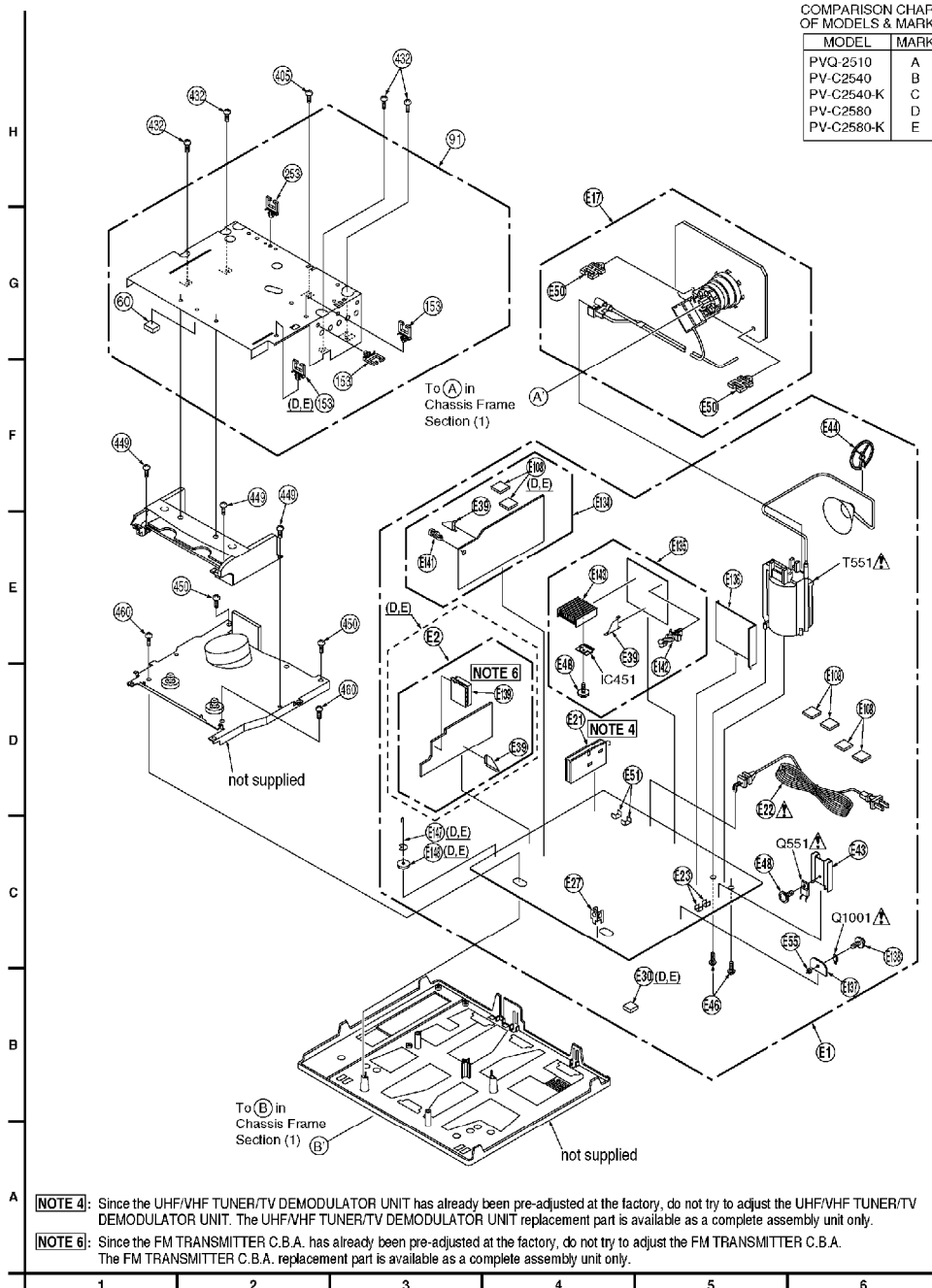
## 5 CHASSIS FRAME SECTION (2)

### IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

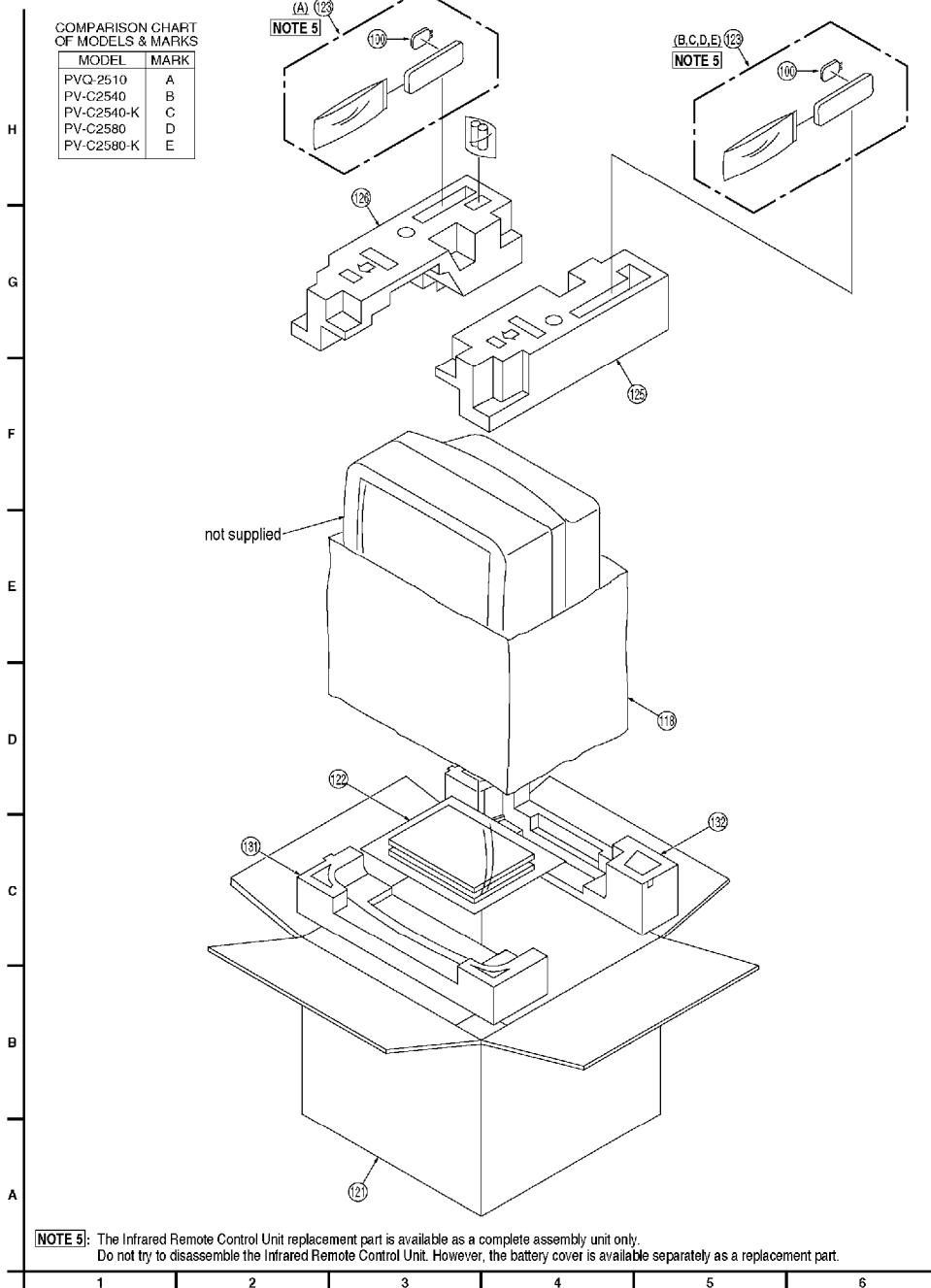
### COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E



## 11.6. PACKING PARTS AND ACCESSORIES SECTION

## 6 PACKING PARTS AND ACCESSORIES SECTION



## 12. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

### 12.1. REPLACEMENT NOTES

#### 12.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

## **2. IMPORTANT SAFETY NOTICE**

Components identified by the sign  have special characteristics important for safety. When replacing any of these components, use only the specified parts.

## **3. SPECIAL NOTE**

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this servicemanual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. Parts with mark "MKA" in Remarks column are supplied from MKA. Others are supplied from MKE.

### **12.1.2. Mechanical Replacement Notes**

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.
2. Main Cam Gear is supplied as a Main Cam Gear Kit (Ref. No. 8) only. Main Cam Gear Kit consists of a Main Cam Gear and a Main Cam Push Nut. However, Main Cam Push Nut is available separately as a replacement part.
3. The Infrared Remote Control Unit (Ref. No. 123) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit. However, the battery cover is available separately as a replacement part.
4. Cut Washer (Ref. No. 470) is not reusable. If removed, install a new one.



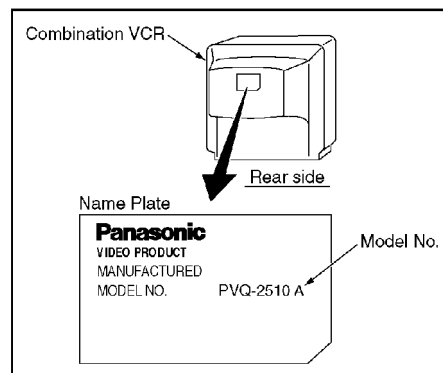
5. Main Cam Push Nut (Ref. No. 414) is not reusable.  
If removed, install a new one.

6. PVQ-2510 replacement note:

There are 2 types of the model number indicated on the Name Plate which is located on the Rear Cover.

<Model Number Indication>

- PVQ-2510 (early product)
- PVQ-2510A (latest product)



Differences between PVQ-2510 and PVQ-2510A are as below.

- Battery Cover (Ref. No. 100)
- Packing Case (Ref. No. 121)
- Fan Bag (Ref. No. 122)
- Infrared Remote Control Unit (Ref. No. 123)

When ordering them, be sure to confirm the model number printed on the Name Plate.

### 12.1.3. Electrical Replacement Notes

1. Item numbers with capital letter E (Example: E1, E2,...) in the Ref. No. column are shown in the exploded views.
2. The parts with " ■ " mark are supplied as an unit and their individual parts are also supplied separately. The parts with " ▲ " mark are supplied as an unit and their individual parts are also supplied separately, and are included in " ■ " parts listed directly above in the parts list.
3. Unless otherwise specified;  
All resistors are in  $\Omega$  ,  $1/4\text{ W}$ ,  $\pm 5\%$ , carbon,  $K = 1,000\ \Omega$  ,  
 $M = 1,000\text{ k}\ \Omega$  .

All capacitors are in  $\mu$  F, P=  $\mu$   $\mu$  F,  $\pm 10\%$ .

All coils are in  $\mu$  H, M= 1,000  $\mu$  H,  $\pm 10\%$ .

#### 4. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

NR: Non Repairable Board Ass'y

MGF CHIP: Metal Glaze Film Chip

C CHIP: Ceramic Chip

COMPLX CMP: Complex Component

W FLMPRF: Wirewound Flameproof

C.B.A.: Circuit Board Assembly

P.C.B.: Printed Circuit Board

E.S.D.: Electrostatically Sensitive Devices

#### 5. SERVICE OF CHIP PARTS

When servicing chip parts, please use a soldering iron of less than 30 W. Refer to "[\*\*IC, TRANSISTOR AND CHIP PART INFORMATION\*\*](#)" page.

6. The parts with " ● " are 0  $\Omega$  resistor. When replacing, a wire can be substituted for a 0  $\Omega$  resistor.

#### 7. Capstan Stator C.B.A. replacement note:

The following parts on the Capstan Stator C.B.A. (VEMS0331) are not supplied separately. Please order and replace with the circuit board assembly instead of individual parts.

(Q2501, Q2502, Q2503, Capstan Coil)

8. When installing the IC2501 (AN3846SC or AN3845SC) or Capstan Stator C.B.A., be sure to apply Silicon Grease (VFK1301). Refer to "Stopper Angle, Capstan Rotor Unit, Oil Seal, Capstan Stator C.B.A., and MR Head" of MECHANISM SECTION in DISASSEMBLY
9. Since the UHF/VHF TUNER/TV DEMODULATOR UNIT (Ref. No. E21) has already been pre-adjusted at the factory, do not try to adjust the UHF/VHF TUNER/TV DEMODULATOR UNIT. The UHF/VHF TUNER/TV DEMODULATOR UNIT replacement part is available as a complete assembly unit only.

**10. Since the FM TRANSMITTER C.B.A. (Ref. No. E139) has already been pre-adjusted at the factory, do not try to adjust the FM TRANSMITTER C.B.A. The FM TRANSMITTER C.B.A. replacement part is available as a complete assembly unit only.**

**11. EEPROM IC (IC6004),**

**TV/VCR Main C.B.A. replacement note:**

**When replacing EEPROM IC (IC6004) or TV/VCR Main C.B.A., be sure to write the initial data with remote control.**

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

## 12.2. MECHANICAL REPLACEMENT PARTS LIST

### 12.2.1. MECHANISM PARTS ON CHASSIS

Ref. No.	Part No.	Part Name& Description	Remarks
<b>1</b>	VBSS0033	FULL ERASE HEAD	1
<b>2</b>	VXKS0890	MOTOR BLOCK UNIT	1
<b>3</b>	LSDB0045	TENSION ARM BOSS	1
<b>4</b>	VXDS0212	CAPSTAN HOLDER UNIT	1
<b>5</b>	LSMD0209	OPENER PIECE	1
<b>8</b>	VVGS0009	MAIN CAM GEAR KIT	2
<b>9</b>	LSDR0004	S REEL TABLE	1
<b>10</b>	LSDR0005	T REEL TABLE	1
<b>11</b>		CYLINDER UNIT	
	VEGS0427	( A )	1
	VEGS0428	( B,C )	1
	VEGS0429	( D,E )	1
<b>12</b>	VEHS0583	AUDIO CONTROL/ERASE HEAD UNIT	1
<b>14</b>	LSDG0112	LIFT GEAR	1
<b>16</b>	VXDS0213	LOADING POST BASE-S UNIT	1
<b>17</b>	VXDS0214	LOADING POST BASE-T UNIT	1
<b>18</b>	VXLS1094	PINCH ARM UNIT	1
<b>19</b>	LSDG0110	INTERMEDIATE GEAR A	1
<b>20</b>	VXLS1101	P5 ARM UNIT	1
<b>21</b>	LSML0131	DRIVE RACK ARM	1
<b>22</b>	VXLS1103	TENSION CONTROL ARM UNIT	1
<b>23</b>	LSMX0129	OIL SEAL	1
<b>27</b>	VXLS1100	T BRAKE UNIT	1
<b>29</b>	VXLS1102	TENSION ARM UNIT	1
<b>32</b>		CLEANER ARM UNIT	
	VXLS1104	( A )	1
<b>33</b>		CLEANER ROLLER	
	VDPS0269	( A )	1

Ref. No.	Part No.	Part Name& Description	Remarks
<a href="#">38</a>	LSMB0221	CASSETTE DOOR SPRING	4 MKA
<a href="#">41</a>	VXPS0389	CENTER CLUTCH UNIT	2
<a href="#">42</a>	VMBS1151	CHANGING GEAR SPRING	2
<a href="#">43</a>	LSDG0114	CHANGING GEAR	2
<a href="#">44</a>	VXLS1091	IDLER ARM UNIT	2
<a href="#">45</a>	VXPS0391	CAPSTAN ROTOR UNIT	2
<a href="#">46</a>	LSMA0387	STOPPER ANGLE	2
<a href="#">47</a>	LSMM0002	MAIN ROD	2
<a href="#">48</a>	LXQVB01250	COLOR PICTURE TUBE UNIT	4 MKA
<a href="#">49</a>	VXLS1099	S LOADING ARM UNIT	2
<a href="#">50</a>	VXLS1098	T LOADING ARM UNIT	2
<a href="#">51</a>	LSDG0116	REEL GEAR	2
<a href="#">52</a>	LSDG0111	INTERMEDIATE GEAR B	2
<a href="#">53</a>	LSMA0423	SUPPORT ANGLE	2
<a href="#">54</a>	LSDV0007	CAPSTAN BELT SQUARE,RUBBER 2MM	2
<a href="#">57</a>	LSSA0003	GROUNDING PLATE UNIT	1
<a href="#">60</a>	VMFS0311	CUSHION	5
<a href="#">61</a>	VXYS1347	CASSETTE UP ASS'Y	3
<a href="#">62</a>	LSMA0352	TOP PLATE	3
<a href="#">64</a>	LSMD0174	SIDE PLATE L	3
<a href="#">65</a>	LSMD0173	SIDE PLATE R	3
<a href="#">66</a>	LSMB0218	SUPPORT SPRING	3
<a href="#">67</a>	LSML0096	OPENER LEVER	3
<a href="#">68</a>	VXLS1111	DRIVE RACK UNIT	3
<a href="#">69</a>	VXAS4423	HOLDER UNIT	3
<a href="#">70</a>	VXLS1110	WIPER ARM UNIT	3
<a href="#">71</a>		FRONT CABINET ASS'Y	
	LXQKY01250	( A )	4 MKA
	LXQKY02250	( B,C )	4 MKA
	LXQKY03250	( D,E )	4 MKA
<a href="#">72</a>		CASSETTE DOOR-LID	
	LKK688030A	(A )	4 MKA
	LSKF0296	( B,C )	4 MKA
	LSKF0299	( D,E )	4 MKA
<a href="#">73</a>		REAR COVER	
	LKV60801B	( A )	4 MKA
		REAR COVER UNIT	
	LXQKV01250	( B )	4 MKA
	LXQKV01250K	( C )	4 MKA
	LXQKV02250	( D )	4 MKA
	LXQKV02250K	( E )	4 MKA
<a href="#">84</a>	LBX61070B	OPERATION BUTTON	4 MKA
<a href="#">90</a>	TBM173052	BADGE,ABS RESIN	4
<a href="#">91</a>		TOP SHIELD PLATE ASS'Y	
	LXQUS01250K	( A,B,C )	5 MKA
	LXQUS02250K	( D,E )	5 MKA
<a href="#">92</a>		SPEAKER UNIT	
	LXQAS01209	( A )	4 MKA
	LXQAS02209	( B,C )	4 MKA
	LXQAS2209S	( D,E )	4 MKA
<a href="#">100</a>		BATTERY COVER	
	LSVQ0017	( A ) For PVQ-2510*See REPLACEMENT NOTES	5 MKA

Ref. No.	Part No.	Part Name& Description	Remarks
	VKFS2235	( A ) For PVQ-2510A*See REPLACEMENT NOTES	5 MKA
	VKFS2235	( B,C,D,E )	5 MKA
<b>118</b>	LPE64005A	BAG,POLYETHYLENE	6 MKA
<b>121</b>		PACKING CASE,PAPER	
	LSPG0736	( A ) For PVQ-2510*See REPLACEMENT NOTES	6 MKA
	LSPG0904	( A ) For PVQ-2510A*See REPLACEMENT NOTES	6 MKA
	LSPG0737	( B )	6 MKA
	LSPG0800	( C )	6 MKA
	LSPG0738	( D )	6 MKA
	LSPG0822	( E )	6 MKA
<b>122</b>		FAN BAG	
	LSQF0186	( A ) For PVQ-2510*See REPLACEMENT NOTES	6 MKA
	LSQF0282	( A ) For PVQ-2510A*See REPLACEMENT NOTES	6 MKA
	LSQF0199	( B,D )	6 MKA
	LSQF0254	( C,E )	6 MKA
<b>123</b>		INFRARED REMOTE CONTROL UNIT	
	LSSQ0222	( A ) For PVQ-2510*See REPLACEMENT NOTES	6 MKA
	LSSQ0241	( A ) For PVQ-2510A*See REPLACEMENT NOTES	6 MKA
	LSSQ0240	( B,C )	6 MKA
	LSSQ0198	( D,E )	6 MKA
<b>125</b>	LPJ61034A	TOP CUSHION RIGHT,STYROFOAM	6 MKA
<b>126</b>	LPJ61033A	TOP CUSHION LEFT,STYROFOAM	6 MKA
<b>131</b>	LPJ62033A	BOTTOM CUSHION FRONT,STYROFOAM	6 MKA
<b>132</b>	LPJ62034A	BOTTOM CUSHION REAR,STYROFOAM	6 MKA
<b>153</b>	TMM77412	CLAMPER	5 MKA
<b>157</b>	TMM77409	PURSE LOCK CLAMPER	4 MKA
<b>200</b>	LKK683009A	PANEL LIGHT	4 MKA
<b>253</b>	TMM6425-1	CLAMPER	5 MKA

## 12.2.2. SCREWS AND WASHERS

Ref. No.	Part No.	Part Name& Description	Remarks
<a href="#">401</a>	VHDS0475	SCREW,STEEL	1
<a href="#">405</a>	VHDS0496	SCREW W/WASHER,STEEL	5
<a href="#">410</a>	VHDS0498	SCREW W/WASHER,STEEL	1
<a href="#">414</a>	VHNS0070	MAIN CAM PUSH NUT,STEEL	2
<a href="#">422</a>	XWGV2D5G	WASHER,NYLON	2
<a href="#">424</a>	XYC26+SF6J	SCREW W/WASHER,STEEL	1
<a href="#">430</a>	XTV26+6FFZJ	TAPPING SCREW,STEEL	1
<a href="#">432</a>	XTV3+8JR	TAPPING SCREW,STEEL	4
<a href="#">443</a>	XTV4+12A	TAPPING SCREW,STEEL	4
<a href="#">445</a>	LHT60001Y	SCREW W/WASHER,STEEL	4 MKA
<a href="#">446</a>	XTV4+16A	TAPPING SCREW,STEEL	4 MKA
<a href="#">449</a>	VHDS0493	TAPPING SCREW,STEEL	5
<a href="#">450</a>	VHDS0309	SCREW,STEEL	5
<a href="#">460</a>	XTN4+12A	TAPPING SCREW,STEEL	5
<a href="#">470</a>	LSMX0135	CUT WASHER,NYLON	1
<a href="#">471</a>	XSN26+5	SCREW,STEEL	1
<a href="#">472</a>	XTN26+5FJ	TAPPING SCREW,STEEL	2
<a href="#">473</a>	XYN26+C6	SCREW,W/WASHER,STEEL	2
<a href="#">474</a>	LSHD0056	TAPPING SCREW,STEEL	1
<a href="#">475</a>	XTV26+5FJ	TAPPING SCREW,STEEL	2

### 12.2.3. SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name& Description	Remarks
	VFMS0003H6	VHS ALIGNMENT TAPE	
	VFKS0081	GREASE	
	VFK0329	POST ADJUSTMENT DRIVER	
	VFK1301	SILICON GREASE	
	VFK27	HEAD CLEANING STICK	
	VFK0330	H-POSITION ADJUSTMENT DRIVER	



## 12.3. ELECTRICAL REPLACEMENT PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name& Description	Remarks
<b>E1</b>	VEPS3083A	TV/VCR MAIN C.B.A.	■ E.S.D. RTL MKA
	( A )		
<b>E1</b>	VEPS3083B	TV/VCR MAIN C.B.A.	■ E.S.D. RTL MKA
	( B )		
<b>E1</b>	VEPS3083E	TV/VCR MAIN C.B.A.	■ E.S.D. RTL MKA
	( C )		
<b>E1</b>	VEPS3083C	TV/VCR MAIN C.B.A.	■ E.S.D. RTL MKA
	( D,E )		
<b>E2</b>	VEPS4034A	AUDIO C.B.A.	▲ E.S.D. RTL MKA
	( D,E )		
<b>E134</b>	VEPS3084A	TV PROCESS C.B.A.	▲ RTL MKA
	( A,B,C )		
<b>E134</b>	VEPS3084B	TV PROCESS C.B.A.	▲ E.S.D. RTL MKA
	( D,E )		
<b>E135</b>	LRP63019A	VERTICAL C.B.A.	▲ RTL MKA
<b>E12</b>	LRP63017A	TV POWER C.B.A.	■ RTL MKA
<b>E126</b>	VEMS0331	CAPSTAN STATOR C.B.A. NR	■
<b>E6</b>	VEPS5034Z	HEAD AMP C.B.A.	■ RTL MKA
	( A )		
<b>E6</b>	VEPS5033Z	HEAD AMP C.B.A.	■ RTL MKA
	( B,C )		
<b>E6</b>	VEPS5035Z	Hi-Fi AUDIO/VIDEO HEAD AMP C.B.A.	■ RTL MKA
	( D,E )		
<b>E17</b>	LRP63005D	CRT C.B.A.	■ RTL MKA




### 12.3.1. TV/VCR MAIN C.B.A. ■

#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC501	TLP621GR	IC, LINEAR OVER CURRENT DETECTOR	 MKA
IC1001	0N3131-R.KT	IC, LINEAR ERROR V. DET	
IC2601	AN3808K	IC, LINEAR CYLINDER MOTOR DRIVE	
IC3001	AN3479FBP-A	IC, LINEAR VIDEO/AUDIO PROCESS	
IC3201	MN3885S	IC, CCD 1H DELAY	E.S.D.
IC3301	LC8632165N41	IC, 8BIT MICROCONTROLLER	E.S.D. MKA
IC4501	LA4285	IC, BIPOLAR LINEAR AUDIO AMP	MKA
IC4511	LA4285	IC, BIPOLAR LINEAR AUDIO AMP	MKA
	( D,E )		
IC4701	LM833M	IC, LINEAR OP AMP	
	OR UPC4570G2-T1	IC, LINEAR OP AMP	
	( D,E )		
IC6001	D784928YG110	IC, 16BIT MICROCONTROLLER	E.S.D.
IC6002	SG-PK01	REEL SENSOR	
IC6003	SG-PK01	REEL SENSOR	
IC6004	KS24C011IS	IC, 1K EEPROM MEMORY	E.S.D.
	OR M24C01-MN6	IC, 1K EEPROM MEMORY	E.S.D.

## TRANSISTORS



Ref. No.	Part No.	Part Name& Description	Remarks
Q501	2SC2482KT		MKA
Q551	2SD2539LBK		 MKA
Q571	2SC2785(TH)		MKA
	OR 2SC2785(TJ)		MKA
	OR 2SC945A(TQ)		
Q581	2SA1321TPE6		MKA
	OR 2SA1767(Q)		MKA
	OR 2SB1221(Q)		MKA
Q801	2SC2785(TH)		MKA
	OR 2SC2785(TJ)		MKA
	OR 2SC945A(TQ)		
Q1001	2SC4130LF608		
	OR 2SC4559LP.KT		
Q1002	2SD2259		
Q1003	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q1004	2SA1037K146R	CHIP	
	OR 2SB709A(R,S)	CHIP	
Q1005	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q1051	2SD2396(K)		
Q1052	2SC2412K1	CHIP	
	OR 2SD601(R,S)	CHIP	
Q1053	2SD2097TV2R	CHIP	
	OR 2SD235800A	CHIP	
Q1057	2SA1175(TF)		MKA
	OR 2SA1175(TH)		MKA
	OR 2SA1175(TJ)		MKA
	OR 2SA1175(TK)		MKA
	OR 2SA564A(Q,R,S)		
	OR 2SA733(TK)		MKA
	OR 2SA733(TP)		MKA

Ref. No.	Part No.	Part Name& Description	Remarks
	OR 2SA733(TQ)		MKA
	( D,E )		
Q1058	2SC2412K1	CHIP	
	OR 2SD601(R,S)	CHIP	
	( D,E )		
Q3001	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
Q3002	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q3310	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q3311	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
Q3314	HN1C01F(GR)	COMPLX CMP SI NPN CHIP	
	OR IMX1	COMPLX CMP SI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q3315	DTA124EK	CHIP	
	OR UN2112	CHIP	
Q4001	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
Q4002	2SD1819A(R,S)	CHIP	
	OR 2SD601(R,S)	CHIP	
Q4003	2SD1819A(R,S)	CHIP	
	OR 2SD601(R,S)	CHIP	
Q4101	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q4154	DTC124EK	CHIP	
	OR UN2212	CHIP	
	( D,E )		
Q4171	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q4173	DTC144EK	CHIP	
	OR UN2213	CHIP	
	( D,E )		
Q6002	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
Q6003	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6004	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
Q6005	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6006	DTA143EK	CHIP	
	OR UN211L	CHIP	
Q6007	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6008	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6009	VEKS5707	PHOTO SENSOR UNIT	
Q6010	VEKS5707	PHOTO SENSOR UNIT	
Q6301	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6302	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	

Ref. No.	Part No.	Part Name& Description	Remarks
Q6303	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q7001	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	












## DIODES



Ref. No.	Part No.	Part Name& Description	Remarks
D503	ERB43-04V		
	OR ES1V		
D505	MA165		
	OR 1SS119		
	OR 1SS133T		
D553	ERB43-04V		
	OR ES1V		
D554	MA167		
	OR 4148-TA		MKA
D558	ERB43-04V		
	OR ES1V		
D560	ERB44-04V		
D582	ERD07-15L26		
D591	TRPW5B0M050D	THERMISTOR	⚠
D806	MA167		
	OR 4148-TA		MKA
D807	ERC13-08		⚠ MKA
D808	ERC13-08		⚠ MKA
D809	ERC13-08		⚠ MKA
D810	ERC13-08		⚠ MKA
D811	ERZV10V361CS	SUEGE ABSORBER 360	⚠ MKA
D882	ERZV10V361CS	SUEGE ABSORBER 360	⚠ MKA
D1001	S1WBA60B		⚠
D1002	ERA18-04V3		
D1003	ERA18-04V3		
D1005	ERA18-04V3		
D1006	ERC30-01L3		
	OR RU3YXLFC1		
D1007	ERA18-04V3		
D1008	ERB81-004V1		
	OR RK14V1		
D1011	MA4051N-TAKT	ZENER 5.1V	
D1012	MA858		
	OR 1SS135T-77		
D1013	MA165		
	OR 1SS119		
	OR 1SS133T		
D1015	MA7180	ZENER 18V	⚠
D1016	MA165		
	OR 1SS119		
	OR 1SS133T		
D1051	MA4100N	ZENER 10V	
	OR RD10JSAB3	ZENER 10V	

Ref. No.	Part No.	Part Name& Description	Remarks
D1052	MA165		
	OR 1SS119		
	OR 1SS133T		
D1053	MA165		
	OR 1SS119		
	OR 1SS133T		
D1056	ERA15-01V3		
	OR ERA15-01V5		
D1057	MA4300-H	ZENER 30V	
	OR MA4300-M	ZENER 30V	
D1058	MA4056-M	ZENER 5.6V	
	( D,E )		
D4171	MA165		
	OR 1SS119		
	OR 1SS133T		
D4523	MA165		
	OR 1SS119		
	OR 1SS133T		
D4524	MA165		
	OR 1SS119		
	OR 1SS133T		
D4591	RD9.1EW	ZENER 9.1V	
D4701	MA4056-M	ZENER 5.6V	
	( D,E )		
D4702	VCYSARH101KB	CERAMIC 50V 100P	
	( D,E )		
D4703	VCYSARH101KB	CERAMIC 50V 100P	
	( D,E )		
D4705	VCYSARH101KB	CERAMIC 50V 100P	
	( D,E )		
D5622	MA165		
	OR 1SS119		
	OR 1SS133T		
	( A,B,C )		
D5623	MA165		
	OR 1SS119		
	OR 1SS133T		
	( A,B,C )		
D6001	VEKS5708	SENSOR LED UNIT	
D6002	MA165		
	OR 1SS119		
	OR 1SS133T		
D6003	MA165		
	OR 1SS119		
	OR 1SS133T		
D6201	MA165		
	OR 1SS119		
	OR 1SS133T		
D6202	MA165		
	OR 1SS119		
	OR 1SS133T		
D6301	SLP913C81HAB	LED RED	
D6302	SLP313C81HAB	LED GREEN	
D6303	SLP413C81HAB	LED ORANGE	MKA

Ref. No.	Part No.	Part Name& Description	Remarks
D6304	MA4051N-H	ZENER 5.1V	
	OR MA4051N-TAKT	ZENER 5.1V	
	OR MA4056-M	ZENER 5.6V	

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R501	ERDS2TJ681	680	
R502	ERDS2TJ332	3.3K	
R505	ERDS2TJ561	560	
R511	ERG3FJ272H	METAL OXIDE 3W 2.7K	MKA
R513	ERG12SJ560P	METAL OXIDE 1/2W 56	MKA
R516	LAR05222J09	W FLMPRF 5W 2.2K	MKA
R552	ERDS2TJ103	10K	
R553	ERDS2TJ102	1K	
R554	ERDS2TJ822	8.2K	
R555	ERDS2TJ823	82K	
R556	ERDS2TJ473	47K	
R558	ERG2ANJ102H	METAL OXIDE 2W 1K	
R559	ERDS2TJ103	10K	
R561	ERQ2CJP1R5S	+5% 2W 1.5	 MKA
R562	ERF5ZK2R2	W FLMPRF+-10% 5W 2.2	
R571	ERDS2TJ101	100	
R572	ERDS2TJ331	330	
R573	ERDS2TJ221	220	
R574	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R581	ERDS1FJ1R5P	1/2W 1.5	
R582	ERDS1FJ1R5P	1/2W 1.5	
R583	ERDS1FJ1R2P	1/2W 1.2	
R584	ERDS2TJ562	5.6K	
R585	ERDS2TJ473	47K	
R586	ERDS2TJ393	39K	
R591	ERF5ZJ121	W FLMPRF 5W 120	
R809	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R810	ERDS2TJ101	100	
R811	ERDS2TJ103	10K	
R812	VRESC2TK825T	SOLID+-10% 1/2W 8.2M	
R815	ERDS2TJ223	22K	
R1003	VRESE2TJ334	1/2W 330K	
R1004	ERG2SJ333H	METAL OXIDE 2W 33K	
R1005	ERG1SJ680P	METAL OXIDE 1W 68	
R1006	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R1007	ERDS2TJ101	100	
R1008	ERDS2TJ392	3.9K	
R1010	ERD25FJ100P	10	
	OR ERD25FPJ100P	10	
	OR VRESF4FJ100P	10	
	OR VRESS4FJ100E	10	
R1011	ERD25FJ100P	10	
	OR ERD25FPJ100P	10	
	OR VRESF4FJ100P	10	

Ref. No.	Part No.	Part Name& Description	Remarks
	OR VRESS4FJ100E	10	
R1014	ERJ6GEYJ221V	MGFCHIP 1/10W 220	
R1015	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1016	ERJ8GEYJ562V	MGF CHIP 1/8W 5.6K	
R1017	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1018	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
R1019	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R1020	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1022	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1051	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1052	ERDS2TJ153	15K	
R1053	ERDS2TJ153	15K	
R1057	ERDS2TJ331	330	
R1058	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1068	ERDS2TJ182	1.8K	
R1069	ERDS2T0	0	
R1070	ERJ6GEYJ154V	MGF CHIP 1/10W 150K	
	( D,E )		
R1071	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	( D,E )		
R1072	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	( D,E )		
R1073	ERDS1VJ202	1/2W 2K	
	( D,E )		
R1074	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
	( D,E )		
R1075	ERDS1VJ202	1/2W 2K	
	( D,E )		
R2601	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2602	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2603	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2604	ERDS2TJ1R0	1	
R2605	ERDS2TJ1R2	1.2	
R2606	ERDS2TJ561	560	
R3001	ERDS2TJ101	100	
R3006	ERDS2TJ101	100	
R3010	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3016	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
R3017	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R3024	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R3025	ERJ6GEYJ125V	MGF CHIP 1/10W 1.2M	
R3026	ERJ6GEYJ474V	MGF CHIP 1/10W 470K	
R3028	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3029	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R3032	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R3035	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3036	ERJ6GEYG102V	MGF CHIP+-2% 1/10W 1K	
R3037	ERJ6GEYG102V	MGF CHIP+-2% 1/10W 1K	
R3038	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3043	ERJ6GEYG392V	MGF CHIP+-2% 1/10W 3.9K	
	( A )		
R3044	ERJ6GEYG682V	MGF CHIP+-2% 1/10W 6.8K	
	( A )		

Ref. No.	Part No.	Part Name& Description	Remarks
R3045	ERJ6GEYG222V	MGF CHIP+-2% 1/10W 2.2K	
	( A )		
R3046	ERJ6GEYG682V	MGF CHIP+-2% 1/10W 6.8K	
	( A )		
R3047	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
	( A,B,C )		
R3077	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3081	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3082	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3083	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R3084	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3085	ERJ6GEYJ181V	MGF CHIP 1/10W 180	
R3091	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3302	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R3303	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3304	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3305	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3306	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3307	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3308	ERDS2TJ103	10K	
	( D,E )		
R3309	ERDS2TJ103	10K	
	( D,E )		
R3310	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R3311	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R3312	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3313	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3317	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3321	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3325	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3326	ERJ6GEYJ105V	MGF CHIP 1/10W 1M	
R3329	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R3330	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3332	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R3336	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3345	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3352	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
	( D,E )		
R3353	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
	( D,E )		
R3354	ERJ6GEYJ682V	MGFCHIP 1/10W 6.8K	
	( D,E )		
R3361	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3362	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R3363	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3366	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3375	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3377	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3378	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3379	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3380	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3381	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3390	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	

Ref. No.	Part No.	Part Name& Description	Remarks
R4001	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4002	ERJ6GEYJ334V	MGF CHIP 1/10W 330K	
R4003	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R4004	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4005	ERJ6GEYJ225V	MGF CHIP 1/10W 2.2M	
R4006	ERJ6GEYJ681V	MGF CHIP 1/10W 680	
R4007	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
R4008	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R4009	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4010	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
	( A,B,C )		
	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	( D,E )		
R4011	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4012	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4014	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4015	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4018	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
	( A,D,E )		
	ERJ6GEYJ123V	MGF CHIP 1/10W 12K	
	( B,C )		
R4021	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
	( A,B,C )		
R4031	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
	( D,E )		
R4032	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	( D,E )		
R4051	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R4052	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4101	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R4102	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R4103	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4171	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4172	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4173	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4174	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	( D,E )		
R4175	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4502	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4504	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
R4509	ERDS2TJ100	10	
R4512	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R4514	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
	( D,E )		
R4519	ERDS2TJ100	10	
	( D,E )		
R4521	ERQ1ABJP4R7S	FUSE 1W 4.7	 MKA
	( A,B,C )		
	ERQ1ABJP2R2S	FUSE 1W 2.2	 MKA
	( D,E )		
R4523	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R4524	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	



Ref. No.	Part No.	Part Name& Description	Remarks
R4591	ERDS2TJ681	680	
R4592	ERDS2TJ681	680	
R4593	ERDS2TJ681	680	
R4594	ERDS2TJ681	680	
R4701	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4702	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R4703	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
	( D,E )		
R4704	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
	( D,E )		
R4705	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
	( D,E )		
R4706	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
	( D,E )		
R4707	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R4708	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R5621	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
	( A,B,C )		
R5622	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	( A,B,C )		
R5623	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	( A,B,C )		
R5625	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	( A,B,C )		
R6001	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6002	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6005	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R6006	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6007	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6008	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6011	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6012	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6013	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6022	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
	( D,E )		
R6024	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6025	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
	( B,C,D,E )		
R6026	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6027	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6028	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6029	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6032	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R6035	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R6036	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
	( D,E )		
R6051	ERDS2TJ102	1K	
	( B,C,D,E )		

Ref. No.	Part No.	Part Name& Description	Remarks
R6054	ERDS2TJ221	220	
R6055	ERDS2TJ221	220	
R6056	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6057	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6058	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6059	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6060	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6061	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R6062	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6063	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6064	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( B,C,D,E )		
R6065	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( A )		
R6066	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6067	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R6068	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( B,C,D,E )		
R6071	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	( B,C,D,E )		
R6072	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6077	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	( B,C,D,E )		
R6078	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( A,B,C )		
R6081	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6082	ERDS2TJ222	2.2K	
R6098	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6099	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6100	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6101	ERDS2TJ121	120	
R6102	ERDS2TJ151	150	
R6103	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6104	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6105	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6106	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6107	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6108	ERDS2TJ681	680	
R6109	ERDS2TJ122	1.2K	
R6110	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6111	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6113	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6114	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R6120	ERDS2TJ560	56	
R6121	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R6122	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6123	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6124	ERJ6GEYJ475V	MGF CHIP 1/10W 4.7M	
R6125	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R6126	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6127	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6128	ERDS2TJ221	220	
R6129	ERDS2TJ221	220	

Ref. No.	Part No.	Part Name& Description	Remarks
R6130	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6150	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6151	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6152	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6159	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6160	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	( A )		
R6161	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
	(A )		
	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
	( D,E )		
R6162	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R6163	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R6164	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R6165	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R6166	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	( D,E )		
R6173	ERJ6GEYG332V	MGF CHIP+-2% 1/10W 3.3K	
R6174	ERDS2TG223	+-2% 22K	MKA
R6175	ERDS2TG273	+-2% 27K	MKA
R6176	ERDS2TJ103	10K	
R6177	ERDS2TJ103	10K	
R6178	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6179	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6181	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	( B,C,D,E )		
R6182	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	( A,B,C )		
R6183	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6184	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	( A )		
R6186	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6187	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R6188	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6202	ERJ6GEYJ274V	MGF CHIP 1/10W 270K	
R6203	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6204	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R6205	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6206	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6209	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R6210	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6212	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6213	ERJ6GEYG102V	MGF CHIP+-2% 1/10W 1K	
R6214	ERJ6GEYG102V	MGF CHIP+-2% 1/10W 1K	
R6216	ERJ6GEYJ274V	MGF CHIP 1/10W 270K	
R6217	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R6301	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6302	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R6303	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6304	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R6305	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6307	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6308	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	

Ref. No.	Part No.	Part Name& Description	Remarks
R6314	ERDS2TJ560	56	
R6315	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6316	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6317	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R7001	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7002	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7003	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7004	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7005	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R7006	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R7007	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7008	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C501	ECQB1H473KM	POLYESTER 50V 0.047	MKA
C510	ECKW2H821KB5	CERAMIC 500V 820P	
C513	ECA1HM100B	ELECTROLYTIC 50V 10	
C524	ECKC3D821KBP	CERAMIC 2KV 820	⚠ MKA
C531	ECA1HM3R3B	ELECTROLYTIC 50V 3.3	MKA
C552	ECA1EM471E	ELECTROLYTIC 25V 470	
C553	ECKW2H221KB5	CERAMIC 500V 220P	
C554	ECWH12H682JS	POLYESTER+-5% 1200V 6800P	⚠
	OR ECWH16682JVB	POLYESTER+-5% 1250V 6800P	⚠ MKA
C556	ECWF2474JBP	POLYESTER+-5% 500V 0.47	⚠ MKA
	OR ECWF2474JSB	POLYESTER+-5% 250V 0.47	⚠ MKA
C558	ECA1VM101B	ELECTROLYTIC 35V 100	
C560	ECA2EM100E	ELECTROLYTIC 250V 10	MKA
C561	ECA2CM2R2B	ELECTROLYTIC 160V 2.2	MKA
C563	ECEA180V33	ELECTROLYTIC 180V 33	
C571	ECA1HM3R3B	ELECTROLYTIC 50V 3.3	MKA
C573	ECKW2H122KB5	CERAMIC 500V 1200P	
C581	ECWH12H682JS	POLYESTER+-5% 1200V 6800P	
C801	ECKM2H472PE7	CERAMIC+100%-0% 500V 4700P	
C802	ECKM2H472PE7	CERAMIC+100%-0% 500V 4700P	
C803	ECKM2H472PE7	CERAMIC+100%-0% 500V 4700P	
C804	ECKM2H472PE7	CERAMIC+100%-0% 500V 4700P	
C808	ECQU2A823MLA	POLYESTER+-20% 250V 0.082	⚠ MKA
	OR LSCFQ2A823MC	POLYESTER+-20% 250V 0.082	⚠ MKA
C809	VSQ1003-F	ARRESTER	⚠ MKA
C810	VCKSFKK332MY	CERAMIC+-20% 125V 3300P	⚠
	OR VCKSFMK332MY	CERAMIC+-20% 125V 3300P	⚠
	OR VCKSFVK332MY	CERAMIC+-20% 125V 3300P	⚠
C1001	ECKATS103MF	CERAMIC+-20% 250V 0.01	⚠
	OR ECKETS103MF	CERAMIC+-20% 250V 0.01	⚠
	OR VCKSEKD103PZ	CERAMIC+100%-0% 125V 0.01	⚠
	OR VCKSEMD103PZ	CERAMIC+100%-0% 125V 0.01	⚠
	OR VCKST3G103MY	CERAMIC+-20% 125V 0.01	⚠

Ref. No.	Part No.	Part Name& Description	Remarks
	OR VCKSU3D103MY	CERAMIC+-20% 125V 0.01	
C1002	ECKATS332ME8	CERAMIC+-20% 250V 3300P	MKA
	OR ECKDNB332ME8	CERAMIC+-20% 125V 3300P	
	OR ECKETS332ME8	CERAMIC+-20% 250V 3300P	
	OR VCKSEKD332MY	CERAMIC+-20% 125V 3300P	
	OR VCKSEVD332MY	CERAMIC+-20% 125V 3300P	
	OR VCKST3G332MX	CERAMIC+-20% 125V 3300P	
	OR VCKSU3D332MX	CERAMIC+-20% 125V 3300P	
C1003	VCKSFKK102MX	CERAMIC+-20% 125V 1000P	
	OR VCKSFMK102MX	CERAMIC+-20% 125V 1000P	MKA
	OR VCKSFVK102MX	CERAMIC+-20% 125V 1000P	MKA
C1004	ECEA2DU121YE	ELECTROLYTIC 200V 120	
	OR VCESAN2D121E	ELECTROLYTIC 200V 120	MKA
	OR VCESR2D121XE	ELECTROLYTIC 200V 120	
C1005	ECA2DHG4R7B	ELECTROLYTIC 200V 4.7	
C1006	ECKW2H221KB5	CERAMIC 500V 220P	
C1007	VCYSBRC104MX	CERAMIC+-20% 16V 0.1	
C1009	ECQB1H103JF	POLYESTER+-5% 50V 0.01	
C1010	ECUV1H101JCN	C CHIP+-5% 50V 100P	
C1011	ECA1HHG4R7B	ELECTROLYTIC 50V 4.7	
C1012	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1013	ECA1EM331B	ELECTROLYTIC 25V 330	
C1014	ECEA1HGE470	ELECTROLYTIC 50V 47	
C1016	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1017	ECA0JM102B	ELECTROLYTIC 6.3V 1000	
C1018	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C1021	EEUGA1H1R0B	ELECTROLYTIC 50V 1	
C1028	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1030	VCYSBRE183KX	CERAMIC 25V 0.018	
C1051	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C1052	ECEA1CKA100	ELECTROLYTIC 16V 10	
C1058	ECEA0JEE101	ELECTROLYTIC 6.3V 100	
C1059	ECEA1CKA470	ELECTROLYTIC 16V 47	
C1063	ECA1CM101B	ELECTROLYTIC 16V 100	
	( D,E )		
C2604	ECUV1E104KBN	C CHIP 25V 0.1	
C2605	ECUV1E104KBN	C CHIP 25V 0.1	
C2606	ECUV1E104KBN	C CHIP 25V 0.1	
C2607	ECUV1E104KBN	C CHIP 25V 0.1	
C2608	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C2609	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C2610	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C2611	ECUV1E103KBN	C CHIP 25V 0.01	
	( A,B,C )		
	ECUV1H103KBN	C CHIP 50V 0.01	
	( D,E )		
C2612	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C2613	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2614	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2615	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3001	ECUV1H103KBN	C CHIP 50V 0.01	

Ref. No.	Part No.	Part Name& Description	Remarks
C3002	ECUV1H020CCN	C CHIP+-0.25P 50V 2P	
	( D,E )		
C3003	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3004	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3006	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3007	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C3008	ECUV1H181JCN	C CHIP+-5% 50V 180P	
C3009	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3010	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3013	ECUV1C224ZFN	C CHIP+80%-20% 16V 0.22	
C3015	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3016	ECEA1CKS100	ELECTROLYTIC 16V 10	
C3019	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3020	ECEA1CKA220	ELECTROLYTIC 16V 22	
C3021	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3022	ECUV1C224ZFN	C CHIP+80%-20% 16V 0.22	
C3023	ECUV1H680JCN	C CHIP+-5% 50V 68P	
C3024	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3025	ECUV1C104KBN	C CHIP 16V 0.1	
C3026	ECUV1H822KBN	C CHIP 50V 8200P	
C3027	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3030	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3031	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3032	ECUV1C474ZFN	C CHIP+80%-20% 16V 0.47	
C3034	ECUV1H181JCN	C CHIP+-5% 50V 180P	
C3035	ECUV1H330JCN	C CHIP+-5% 50V 33P	
C3036	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3038	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3041	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3043	ECUV1H392KBN	C CHIP 50V 3900P	
C3044	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3045	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C3046	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3047	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C3048	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3050	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3053	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( A,B,C )		
C3054	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( B,C,D,E )		
C3055	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3056	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3057	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3058	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3060	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3081	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3082	ECUV1H332KBN	C CHIP 50V 3300P	
C3083	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3231	ECEA1HKA010	ELECTROLYTIC 50V 1	
C3232	ECUV1H102KBN	C CHIP 50V 1000P	
C3234	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3235	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3236	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3237	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	

Ref. No.	Part No.	Part Name& Description	Remarks
C3301	ECUV1H220JCN	C CHIP+-5% 50V 22P	
C3302	ECUV1H180JCN	C CHIP+-5% 50V 18P	
C3303	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3304	ECEA0JKA221	ELECTROLYTIC 6.3V 220	
C3308	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3309	ECEA1HKS010	ELECTROLYTIC 50V 1	
C3310	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3311	ECUV1H333KBN	C CHIP 50V 0.033	
C3312	ECUV1H102KBN	C CHIP 50V 1000P	
C3313	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3314	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3326	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3335	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
	( D,E )		
C3367	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C4001	ECUV1C224ZFN	C CHIP+80%-20% 16V 0.22	
C4002	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4003	ECUV1H272KBN	C CHIP 50V 2700P	
C4004	ECUV1H103KBN	C CHIP 50V 0.01	
C4005	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C4006	ECUV1H102KBN	C CHIP 50V 1000P	
C4007	ECEA0JKA220	ELECTROLYTIC 6.3V 22	
C4008	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C4009	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4010	ECUV1E333KBN	C CHIP 25V 0.033	
C4011	ECUV1H103KBN	C CHIP 50V 0.01	
C4012	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4013	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C4014	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4018	ECUV1H103KBN	C CHIP 50V 0.01	
	( A,B,C )		
C4020	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( A,B,C )		
C4051	ECUV1E333KBN	C CHIP 25V 0.033	
C4102	ECQB1562JF	POLYESTER+-5% 100V 5600P	
C4103	ECUV1H103KBN	C CHIP 50V 0.01	
C4104	ECUV1H103KBN	CCHIP 50V 0.01	
C4105	ECEA1CKA220	ELECTROLYTIC 16V 22	
C4171	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4502	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4504	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C4506	ECEA1CKA470	ELECTROLYTIC 16V 47	
C4508	ECA1CM221B	ELECTROLYTIC 16V 220	
C4509	ECUV1H473KBN	C CHIP 50V 0.047	
C4512	ECEA1CKA100	ELECTROLYTIC 16V 10	
	( D,E )		
C4514	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
	( D,E )		
C4516	ECEA1CKA470	ELECTROLYTIC 16V 47	
	( D,E )		
C4518	ECA1CM221B	ELECTROLYTIC 16V 220	
	( D,E )		
C4519	ECUV1H473KBN	C CHIP 50V 0.047	
	( D,E )		

Ref. No.	Part No.	Part Name& Description	Remarks
C4521	ECA1EM102B	ELECTROLYTIC 25V 1000	MKA
C4524	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4525	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C4701	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C4702	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( D,E )		
C4703	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( D,E )		
C4704	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( D,E )		
C4705	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( D,E )		
C4706	ECEA1CM471	ELECTROLYTIC 16V 470	
	( D,E )		
C5622	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
	( A,B,C )		
C6001	ECA0JM102B	ELECTROLYTIC 6.3V 1000	
C6004	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C6005	ECUV1H103KBN	C CHIP 50V 0.01	
C6009	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C6011	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6012	ECUV1H180JCN	C CHIP+-5% 50V 18P	
C6013	ECUV1H150GCN	C CHIP+-2% 50V 15P	
C6014	ECUV1H020CCN	C CHIP+-0.25P 50V 2P	
C6015	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6016	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6017	ECUV1H101JCN	C CHIP+-5% 50V 100P	
C6018	ECUV1H101JCN	C CHIP+-5% 50V 100P	
C6019	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6022	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6029	ECUV1H102KBN	C CHIP 50V 1000P	
C6030	ECUV1H102KBN	C CHIP 50V 1000P	
C6035	ECEA1CKS100	ELECTROLYTIC 16V 10	
C6061	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C6100	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C6201	ECUV1H102KBN	C CHIP 50V 1000P	
C6203	ECUV1H103KBN	C CHIP 50V 0.01	
C6206	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6207	ECUV1H680JCN	C CHIP+-5% 50V 68P	
C6208	ECUV1E104KBN	C CHIP 25V 0.1	
C6209	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C6211	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C6212	ECUV1H100CCN	C CHIP+-0.25P 50V 10P	
C6213	ECUV1H272KBN	C CHIP 50V 2700P	
C6214	ECUV1H102KBN	C CHIP 50V 1000P	
C6218	ECEA0JKS101	ELECTROLYTIC 6.3V 100	
C6219	ECEA1EKS4R7	ELECTROLYTIC 25V 4.7	
C6220	ECUV1H103KBN	C CHIP 50V 0.01	
C6223	ECUV1E104KBN	C CHIP 25V 0.1	
C6235	ECEA0JKA221	ELECTROLYTIC 6.3V 220	
C6301	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C6302	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	










Ref. No.	Part No.	Part Name& Description	Remarks
C7002	ECUV1H102KBN	C CHIP 50V 1000P	
C7006	ECA0JM102B	ELECTROLYTIC 6.3V 1000	
C7007	ECUV1H102KBN	C CHIP 50V 1000P	
C7008	ECUV1H103ZFN	CCHIP+80%-20% 50V 0.01	
C7010	ECEA1CKA100	ELECTROLYTIC 16V 10	

## FILTERS

Ref. No.	Part No.	Part Name& Description	Remarks
FL4051	VLFS0014		

## COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L501	ELH5L6128		 MKA
L803	ELF18D650B	LINE FILTER 2.4A 3.3M	
L1001	ELF15N005AB	LINE FILTER 0.5A 18M	
	OR VLQS0166	LINE FILTER 0.5A 18M	
	OR VLQS0167	LINE FILTER 0.5A 18M	
L1002	VLQSAB7D220K	22	
L1003	VLQSAB7D100K	10	
L1006	VLPS0083		
L3001	VLQSH02R390K	39	
L3002	ELESN101KA	100	
L3005	VLQSH02R330K	33	
L3010	ELESN470KA	47	
L3020	VLPS0087		MKA
	( A,B,C )		
L3231	ELESN221KA	220	
L3303	VLPS0111	CHIP BEAD INDUCTOR	MKA
L3304	VLPS0111	CHIP BEAD INDUCTOR	MKA
L3305	VLPS0111	CHIP BEAD INDUCTOR	MKA
L4001	VLQSU06R153K	15M	
L4002	ELESN101KA	100	
L4004	VLQSH02R100K	10	
L4101	ELESN471KA	470	
L4701	ELEXT101KE04	100	
	( D,E )		
L4702	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L4703	BK2125HM102	FERRITE BEAD CHIP 1K	
	( D,E )		
L4704	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
	( D,E )		
L6002	ELEXT101KE04	100	
L7002	ELESN100KA	10	

## CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X3001	VSXS0195		
	( D,E )		
X3301	VSXS0238		MKA
X6001	VSXS0784		MKA

### PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P552	VJSS0898	4P WIRE TRAP	MKA
P803	VEKS5731	CONNECTOR ASS'Y	MKA
P805	VEKS5730	CONNECTOR ASS'Y	MKA
P1001	VJPS0303	CONNECTOR 2P	
P3001	LSJP0085	CONNECTOR 10P	
	( A )		
	VJPS0882	CONNECTOR 12P	
	( B,C )		
	VJPS0885	CONNECTOR 20P	
	( D,E )		
P4001	VJSS0888	FE CONNECTOR 2P	
P4591	VJPS0268	CONNECTOR 2P	
	( A,B,C )		
	VJPS0274	CONNECTOR 4P	
	( D,E )		
P6201	LSJP0089	CONNECTOR 12P	
P6202	LSJP0088	CONNECTOR 12P	
P7002	TEL302-5X		

### SWITCHES

Ref. No.	Part No.	Part Name& Description	Remarks
SW6001	LSSH0002	LEAF SWITCH-SAFETY TAB	
SW6002	LSSS0008	MODE SWITCH	MKA
SW6301	EVQ21405R	PUSH SWITCH	
SW6302	EVQ21405R	PUSH SWITCH	
SW6303	EVQ21405R	PUSH SWITCH	
SW6304	EVQ21405R	PUSH SWITCH	
SW6305	EVQ21405R	PUSH SWITCH	
SW6306	EVQ21405R	PUSH SWITCH	
SW6307	EVQ21405R	PUSH SWITCH	
SW6308	EVQ21405R	PUSH SWITCH	
SW6310	EVQ21405R	PUSH SWITCH	
SW6311	EVQ21405R	PUSH SWITCH	
SW6312	EVQ21405R	PUSH SWITCH	

### FUSE& PROTECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
F801	XBA1F40NU100	FUSE 125V 4A	
F1001	VSFS0003A16	FUSE 125V 1.6A	
	OR VSFS0028A16	FUSE 125V 1.6A	
	OR XBA1C16NU100	FUSE 125V 1.6A	
PR1001	ICP-N38-TP1	IC PROTECTOR 1.5A	
	OR UNH000600A	IC PROTECTOR 1.5A	
PR1003	ICP-F25-1	IC PROTECTOR 1.0A	MKA
	OR UN11010	IC PROTECTOR 1.0A	MKA
PR1004	ICP-F25-1	IC PROTECTOR 1.0A	MKA
	OR UN11010	IC PROTECTOR 1.0A	MKA
PR1005	ICP-F25-1	IC PROTECTOR 1.0A	MKA
	OR UN11010	IC PROTECTOR 1.0A	MKA

### RELAY

Ref. No.	Part No.	Part Name& Description	Remarks
RL801	TSEH0005	RELAY,120V	

### TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T501	ETH19Y70AY		
T502	ETE16Z37AY		
T551	KFT4AB284F		MKA
T1001	ETS28AD1F5AC		
	OR VTPS0034		
	OR VTPS0038		MKA
	OR VTPS0040		
T4101	VLTS0367		MKA

### JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK4591	LJP28016A	EARPHONE JACK SOCKET	MKA
	( A,B,C )		
	LJP28015A	EARPHONE JACK SOCKET	MKA
	( D,E )		
JK4701	LJP68005A	FRONT AUDIO/VIDEO JACK SOCKET	MKA
	( A,B )		
	LJP68003A	FRONT AUDIO/VIDEO JACK SOCKET	MKA
	( C )		
	LJP68004A	FRONT AUDIO/VIDEO JACK SOCKET	MKA
	( D,E )		
JK4702	LJP68007A	AUDIO JACK SOCKET	MKA
	( D,E )		

### PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name& Description	Remarks
<b>E2</b>	VEPS4034A	AUDIO C.B.A.	▲ MKA
	( D,E )		
<b>E134</b>	VEPS3084A	TV PROCESS C.B.A.	▲ MKA
	( A,B,C )		
	VEPS3084B	TV PROCESS C.B.A.	▲ MKA
	( D,E )		
<b>E135</b>	LRP63019A	VERTICAL C.B.A.	▲ MKA

### MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
<b>E21</b>	ENG36702G	TUNER, UHF/VHF NR	MKA
	( A )		
	ENG36701G	TUNER, UHF/VHF NR	MKA
	( B,C,D,E )		
<b>E22</b>	LFX6106A	AC CORD W/PLUG,125V	▲ MKA
	OR LSJA0256	AC CORD W/PLUG,125V	▲ MKA
<b>E23</b>	EYF52BC	FUSE HOLDER	
<b>E27</b>	TSOP1837UH1	INFRARED RECEIVER UNIT	MKA
<b>E30</b>	VMTS0035	CUSHION,RUBBER	
	( D,E )		
<b>E43</b>	TUC77628	HEAT SINK	MKA
<b>E44</b>	LML69001A	ANODE LEAD CLAMPER	MKA
<b>E46</b>	XTV3+10G	TAPPING SCREW,STEEL	
<b>E48</b>	XYN3+F10S	SCREW W/WASHER,STEEL	
<b>E51</b>	TJC6319	FUSE HOLDER	
<b>E55</b>	XNG3	NUT,STEEL	
<b>E108</b>	VMFS0136	SHEET,NYLON+RAYON	
<b>E113</b>	VEKS5712	FM RADIO ANTENNA CORD, 0V	
	( D,E )		
<b>E136</b>	LSSC0348	SHIELD PLATE,STEEL	MKA
<b>E137</b>	VSCS1072	HEAT SINK	
<b>E138</b>	XYN3+F8S	SCREW W/WASHER,STEEL	
<b>E147</b>	LSMB0231	FM ANTENNA	MKA
	( D,E )		
<b>E148</b>	LSGF0037	BARRIER	MKA
	( D,E )		

### 12.3.2. AUDIO C.B.A. ( D,E ) ▲

#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC4201	AN3962FB-V	IC, LINEAR Hi-Fi AUDIO PROCESS	
IC4271	UPC4574G2-T1	IC, LINEAR OP AMP	MKA
IC4303	BU4052BCF	IC, CMOS STANDARD LOGIC INPUT SELECT	E.S.D. MKA
	OR CD4052BCM	IC, CMOS STANDARD LOGIC INPUT SELECT	E.S.D.
IC9001	CXA2064M	IC, LINEAR MTS/SAP SIGNAL PROCESS	MKA
IC9201	AN7420-NT	IC, LINEAR FM SIGNAL PROCESS	MKA

#### TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q9001	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q9002	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	

## DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D4281	MA111	CHIP	
D4282	MA111	CHIP	
D4283	MA111	CHIP	
D4284	MA111	CHIP	
D4285	MA4051-M	ZENER 5.1V	
D9001	MA165		
	OR 1SS119		
	OR 1SS133T		

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R4201	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4202	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4203	ERJ6GEYJ511V	MGF CHIP 1/10W 510	
R4204	ERJ6GEYJ511V	MGF CHIP 1/10W 510	
R4205	ERDS2TJ393	39K	
R4206	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R4207	ERJ6GEYJ183V	MGFCHIP 1/10W 18K	
R4208	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
R4209	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4210	ERA6YEB153V	MGF CHIP+-0.1% 1/10W 15K	
R4211	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R4212	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R4213	ERJ6GEYJ123V	MGF CHIP 1/10W 12K	
R4214	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4215	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4216	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4217	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4218	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4219	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4220	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4221	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4222	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4223	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4271	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4272	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4274	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R4275	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R4276	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R4277	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R4278	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R4279	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R4280	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4281	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	

Ref. No.	Part No.	Part Name& Description	Remarks
R4282	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R4283	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R4284	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4285	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4286	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4287	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4288	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R4289	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4290	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R4292	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4293	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R4294	ERDS2TJ271	270	
R4301	ELESN101KA	100	
R4302	ELESN101KA	100	
R4311	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4312	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R9001	EVNCYAA03B14	VARIABLE 10K	
R9002	ERJ6GEYG683V	MGF CHIP+-2% 1/10W 68K	
R9003	EVNDCAA03B14	VARIABLE 10K	
R9004	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R9005	ERJ6GEYJ105V	MGF CHIP 1/10W 1M	
R9006	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R9007	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R9008	EVMAASA00B53	VARIABLE 5K	
R9009	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R9010	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9011	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9012	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9017	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
R9018	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9201	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9202	ERDS2TJ103	10K	
R9203	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9204	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R9205	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R9206	EVMAASA00B53	VARIABLE 5K	
R9207	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R9208	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R9209	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R9210	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R9211	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R9212	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9213	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C4201	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4202	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4203	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4204	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4205	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4206	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4207	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4208	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C4209	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C4210	ECEA0JKA330	ELECTROLYTIC 6.3V 33	
C4211	ECEA0JKA330	ELECTROLYTIC 6.3V 33	
C4212	ECUV1H473KBN	C CHIP 50V 0.047	
C4213	ECUV1H473KBN	C CHIP 50V 0.047	
C4214	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C4215	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C4216	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C4217	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C4218	ECUV1H153KBN	C CHIP 50V 0.015	
C4219	ECUV1H153KBN	C CHIP 50V 0.015	
C4220	ECUV1H103KBN	C CHIP 50V 0.01	
C4221	ECUV1H103KBN	C CHIP 50V 0.01	
C4223	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4224	ECUV1C224ZFN	C CHIP+80%-20%16V 0.22	
C4225	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4226	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4227	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C4228	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C4229	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4230	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4271	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4273	ECUV1E823KBN	C CHIP 25V 0.082	MKA
C4274	ECUV1E823KBN	C CHIP 25V 0.082	MKA
C4275	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4277	ECUV1H333KBN	C CHIP 50V 0.033	
C4278	ECUV1H333KBN	C CHIP 50V 0.033	
C4284	ECUV1H103KBN	C CHIP 50V 0.01	
C4285	ECUV1H103KBN	C CHIP 50V 0.01	
C4286	ECUV1H152KBN	C CHIP 50V 1500P	
C4287	ECUV1H152KBN	C CHIP 50V 1500P	
C4301	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C4302	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C4307	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4308	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C9001	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9002	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9003	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9004	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9005	ECEA1CKA100	ELECTROLYTIC 16V 10	
C9006	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9007	ECUV1H562KBN	C CHIP 50V 5600P	
C9008	ECUV1E123KBN	C CHIP 25V 0.012	
C9009	ECEA1EKN4R7	ELECTROLYTIC 25V 4.7	
C9010	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9011	ECEA1CKA100	ELECTROLYTIC 16V 10	

Ref. No.	Part No.	Part Name& Description	Remarks
C9012	ECEA1CKA100	ELECTROLYTIC 16V 10	
C9013	ECEA1CKA100	ELECTROLYTIC 16V 10	
C9014	ECEA1EKN4R7	ELECTROLYTIC 25V 4.7	
C9015	ECEA1HKA3R3	ELECTROLYTIC 50V 3.3	
C9016	ECEA1EKN4R7	ELECTROLYTIC 25V 4.7	
C9017	ECUV1E473KBN	C CHIP 25V 0.047	
C9018	ECUV1H272KBN	C CHIP 50V 2700P	
C9019	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C9020	ECEA1CKA220	ELECTROLYTIC 16V 22	
C9201	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C9202	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C9203	ECEA1CKA100	ELECTROLYTIC 16V 10	
C9204	ECQP1H102J	POLYESTER+-5% 50V 1000P	
C9205	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9206	ECEA1HKA3R3	ELECTROLYTIC 50V 3.3	
C9207	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9208	ECUV1H223KBN	CCHIP 50V 0.022	
C9209	ECUV1H223KBN	C CHIP 50V 0.022	
C9210	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9211	ECEA1HKA010	ELECTROLYTIC 50V 1	

### FILTERS

Ref. No.	Part No.	Part Name& Description	Remarks
FL4271	VLFS0014		
FL4272	VLFS0014		

### COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L9001	ELESN101KA	100	
L9201	ELESN101KA	100	

### PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P4201	VJHS0299	9P	
P4202	VJHS0298	PACK PIN 8PIN	
P4203	VJHS0298	PACK PIN 8PIN	
P4204	VJHS0298	PACK PIN 8PIN	
P4205	VJHS0298	PACK PIN 8PIN	
P4206	VJHS0298	PACK PIN 8PIN	
P4207	VJHS0295	PACK PIN 5P	

### MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E39	VMAS1912	P.C.B. SUPPORT ANGLE	
E139	VEPS4033A	FM TRANSMITTER C.B.A. NR	MKA

## 12.3.3. TV PROCESS C.B.A. ▲

### INTEGRATED CIRCUITS




Ref. No.	Part No.	Part Name& Description	Remarks
IC5301	AN5367FB	IC, LINEAR Y/C SIGNAL PROCESS	MKA
IC5651	TC90A45F-ELP	IC, LOGIC Y/C SEPARATION	E.S.D.
	( D,E )		


## TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q5211	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
	( D,E )		
Q5212	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5213	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5215	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
	( D,E )		
Q5216	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5217	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5301	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q5302	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q5651	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5652	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
	( D,E )		
Q5653	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5654	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	
	( D,E )		
Q5655	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
	( D,E )		
Q5656	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
	( D,E )		
Q5901	2SD1858(R)		MKA
	OR 2SD2259		

## DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D5304	MA165		
	OR 1SS119		
	OR 1SS133T		
D5501	MA4062-L	ZENER 6.2V	

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R5244	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
	( D,E )		
R5245	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R5246	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
	( D,E )		
R5248	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
	( D,E )		
R5249	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
	( D,E )		
R5253	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
	( D,E )		
R5254	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
	( D,E )		
R5255	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
	( D,E )		
R5256	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
	( D,E )		
R5257	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
	( D,E )		
R5258	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R5270	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
	( D,E )		
R5271	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
	( D,E )		
R5272	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R5301	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
	( A,B,C )		
	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
	( D,E )		
R5302	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5304	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5305	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R5306	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5307	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R5308	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5309	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R5311	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5312	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5313	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5314	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5315	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	

Ref. No.	Part No.	Part Name& Description	Remarks
R5316	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5317	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5318	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5322	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5324	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5325	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5326	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5327	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5328	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5401	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5402	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5403	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R5405	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5406	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5407	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5501	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R5502	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5503	ERDS2TJ471	470	
R5504	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5505	ERJ6ENF3241V	MGF CHIP+-1% 1/10W 3.24K	⚠
R5506	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R5508	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5510	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5511	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R5512	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R5513	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5515	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5604	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R5651	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
	( D,E )		
R5652	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R5653	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
	( D,E )		
R5654	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
	( D,E )		
R5655	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
	( D,E )		
R5656	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
	( D,E )		
R5657	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
	( D,E )		
R5659	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
	( D,E )		
R5660	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
	( D,E )		
R5661	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
	( D,E )		
R5662	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
	( D,E )		
R5663	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
	( D,E )		

Ref. No.	Part No.	Part Name& Description	Remarks
R5664	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R5665	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R5666	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
	( D,E )		
R5668	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R5670	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	( D,E )		
R5902	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R5903	ERDS1FJ3R3P	1/2W 3.3	
	( D,E )		
R5931	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
	( A,B,C )		
R5932	ERDS2TJ101	100	
R5933	ERDS2TJ101	100	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C5252	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5253	ECEA1CKA220	ELECTROLYTIC 16V 22	
	( D,E )		
C5254	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5255	ECEA1CKA220	ELECTROLYTIC 16V 22	
	( D,E )		
C5266	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5267	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5301	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5302	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C5303	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C5305	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C5306	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5307	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5308	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5401	VCUSTBC224KB	C CHIP+-10% 16V 0.22	
C5402	ECUV1H222KBN	C CHIP 50V 2200P	
C5403	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C5501	ECUV1E183KBN	C CHIP 25V 0.018	
C5502	ECUV1H681KBN	C CHIP 50V 680P	
C5505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5506	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C5507	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5508	ECUV1H221JSN	C CHIP+-5% 50V 220P	MKA
C5510	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5511	ECUV1E333KBN	C CHIP 25V 0.033	
C5516	ECUV1E333KBN	C CHIP 25V 0.033	
C5601	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C5602	ECUV1E104KBN	C CHIP 25V 0.1	

Ref. No.	Part No.	Part Name& Description	Remarks
C5603	ECUV1H150JCN	C CHIP+-5% 50V 15P	
C5604	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5605	ECUV1E153KBN	C CHIP 25V 0.015	
C5652	ECUV1H100CCN	C CHIP+-0.25P 50V 10P	
	( D,E )		
C5653	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5654	ECEA1HKA010	ELECTROLYTIC 50V 1	
	( D,E )		
C5655	ECUV1H270JCN	C CHIP+-5% 50V 27P	
	( D,E )		
C5656	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
	( D,E )		
C5657	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5658	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5659	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5660	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5661	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
	( D,E )		
C5662	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
	( D,E )		
C5663	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5664	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5665	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5666	ECEA0JKA220	ELECTROLYTIC 6.3V 22	
	( D,E )		
C5668	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5669	ECUV1H181JCN	C CHIP+-5% 50V 180P	
	( D,E )		
C5670	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5671	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5672	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
	( D,E )		
C5673	ECUV1H560JCN	C CHIP+-5% 50V 56P	
	( D,E )		
C5674	ECUV1H390JCN	C CHIP+-5% 50V 39P	
	( D,E )		
C5675	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5676	ECEA1CKA220	ELECTROLYTIC 16V 22	
	( D,E )		
C5677	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
	( D,E )		
C5678	ECEA1CKA220	ELECTROLYTIC 16V 22	

Ref. No.	Part No.	Part Name& Description	Remarks
	( D,E )		
C5680	ECUV1H270JCN	C CHIP+-5% 50V 27P	
	( D,E )		
C5902	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5903	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5904	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C5905	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C5906	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C5932	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	

## FILTERS

Ref. No.	Part No.	Part Name& Description	Remarks
FL5651	LSLF0053	EMI FILTER CHIP	

## COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L5301	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
L5302	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
L5303	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
L5213	ELESN101KA	100	
	( D,E )		
L5221	ELESN101KA	100	
	( D,E )		
L5652	ELESN150KA	15	
	( D,E )		
L5653	LSLQF06R101K	+ -10% 100	
	( D,E )		
L5654	ELESN4R7KA	4.7	
	( D,E )		
L5656	ELESN101KA	100	
	( D,E )		
L5657	ELESN101KA	100	
	( D,E )		
L5658	ELESN101KA	100	
	( D,E )		
L5901	ELESN101KA	100	

## CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X5501	CSB503F38		
X5601	VSXS0208-A		MKA

## PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P5301	VJSS0899	CONNECTOR 4P	
P5302	VJHS0296	CONNECTOR 6P	
P5303	VJHS0292	CONNECTOR 12P	
P5305	VJHS0292	CONNECTOR 12P	
P5306	VJHS0296	CONNECTOR 6P	
P8001	VJPS0255	CONNECTOR 5P	

### MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E39	VMAS1912	P.C.B. SUPPORT ANGLE	
E108	VMFS0136	SHEET,NYLON+RAYON	
	( D,E )		
E141	VMXS0414	SPACER	

## 12.3.4. VERTICAL C.B.A. ▲

### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC451	LA7837	IC, LINEAR VERTICAL OUT	




### TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q431	2SA1175		
	OR 2SA1175(TH)		MKA
	OR 2SA733(TQ)		MKA
Q432	2SC3311A(R)		MKA
Q433	2SB1322A(R)		MKA
	OR 2SB1322A(S)		MKA
Q434	2SC3311A(R)		MKA
Q502	2SC2785(TH)		MKA
	OR 2SC2785(TJ)		MKA
	OR 2SC945A(TQ)		
Q541	2SA1175		
	OR 2SA1175(TH)		MKA
	OR 2SA733(TQ)		MKA
Q542	2SC2785(TH)		MKA
	OR 2SC2785(TJ)		MKA
	OR 2SC945A(TQ)		

### DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D401	ERB12-01		
	OR ERB12-01RKV1		
	OR ERB12-01V		
D502	MA165		
	OR 1SS119		
	OR 1SS133T		
D504	MA4047-H	ZENER 4.7V	
	OR MA4047-M	ZENER 4.7V	
	OR RD4.7ESAB	ZENER 4.7V	
	OR RD4.7ESAB2	ZENER 4.7V	
	OR 04AZ4.7ZTPA7	ZENER 4.7V	
D506	MA165		
	OR 1SS119		
	OR 1SS133T		
D541	MA165		
	OR 1SS119		
	OR 1SS133T		
D542	MA4180-M	ZENER 18V	
D543	MA165		
	OR 1SS119		
	OR 1SS133T		
D544	ERB43-04V		
	OR ES1V		

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R401	ERDS2TJ181	180	
R402	ERDS2TJ333	33K	
R405	ERG2SJ561H	METAL OXIDE 2W 560	
R409	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R410	ERDS2TJ472	4.7K	
R411	ERDS2TJ104	100K	
R413	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R414	ERX12SJR82P	METAL FILM 1/2W 0.82	
R422	ERD25FJ101P	100	
R427	ERQ14AJ5R6P	FUSE 5.6	 MKA
R431	ERDS2TJ103	10K	
R432	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R433	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R434	ERDS2TJ103	10K	
R435	ERDS2TJ102	1K	
R436	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R466	ERJ6GEYJ683V	MGF CHIP 1/10W 68K	
R468	ERDS2TJ102	1K	
R469	ERDS2TJ222	2.2K	
R470	ERDS2TJ152	1.5K	
R471	ERDS2TJ561	560	
R472	ERDS2TJ471	470	
R473	ERDS2TJ101	100	
R474	ERDS2TJ222	2.2K	
R475	ERDS2TJ222	2.2K	
R476	ERDS2TJ561	560	



Ref. No.	Part No.	Part Name& Description	Remarks
R477	ERDS2TJ102	1K	
R478	ERDS2TJ332	3.3K	
R480	ERDS2TJ391	390	
R481	ERDS2TJ222	2.2K	
R482	ERDS2TJ150	15	
R503	ER0S2THF1052	+-1% 10.5K	 MKA
	OR ER0S2TKF1052	+-1% 10.5K	
	OR VRESR4TF1052	+-1% 10.5K	
R509	ERDS2TJ101	100	
R510	ERDS2TJ472	4.7K	
R515	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R519	ERDS2TJ123	12K	
R520	ERDS2TJ562	5.6K	
R523	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R524	ERDS2TJ223	22K	
R525	ERDS2TJ222	2.2K	
R541	ERDS2TJ473	47K	
R542	ERDS2TJ103	10K	
R543	ERDS2TJ472	4.7K	
R545	ERDS2TJ331	330	
R546	ERDS2TJ103	10K	
R547	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R548	ERDS2TJ104	100K	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C401	ECEA1HGE2R2	ELECTROLYTIC 50V 2.2	
C402	ECA1CM471B	ELECTROLITIC 16V 470	
C408	ECA1HGE010KB	ELECTROLYTIC 50V 1	MKA
C409	ECA1VM101B	ELECTROLYTIC 35V 100	
C413	ECQB1H104KF	POLYESTER 50V 0.1	
C414	ECA1EM102E	ELECTROLYTIC 25V 1000	MKA
C418	ECA1VM221B	ELECTROLYTIC 35V 220	
C458	ECQB1H103KM	POLYESTER 50V 0.01	MKA
C541	ECA1HM100B	ELECTROLYTIC 50V 10	
C543	ECA1HM100B	ELECTROLYTIC 50V 10	

## PIN HEADERS


Ref. No.	Part No.	Part Name& Description	Remarks
P451	VJHS0291	11P	
P452	VJHS0299	9P	

## MISCELLANEOUS




Ref. No.	Part No.	Part Name& Description	Remarks
<b>E39</b>	VMAS1912	P.C.B. SUPPORT ANGLE	
<b>E48</b>	XYN3+F10S	SCREW W/WASHER,STEEL	
<b>E142</b>	LML69002A	CLAMPER	MKA
<b>E143</b>	LUS63008A	HEAT SINK	MKA

### 12.3.5. TV POWER C.B.A. ■


#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC801	STR30130	IC, LINEAR+130V REGULATOR	

#### RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R801	ERF5ZKR82	W FLMPRF+-10% 5W 0.82	
R802	ERDS1FJ103P	1/2W 10K	
	OR ERDS1FPJ103V	1/2W 10K	
R803	ERF10ZK8R2S	W FIMPRF+-10% 10W 8.2	MKA
R804	ERF20ZJ131	W FLMPRF 20W 130	
R805	ERDS2TJ104	100K	
R806	ERQ14AJ470P	FUSE 47	
R813	ERDS2TJ124	120K	

#### CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C805	ECOS2DP681BB	ELECTROLYTIC 200V 680	 MKA
C806	ECA2EM330E	ELECTROLYTIC 250V 33	MKA

#### COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L802	VLQSAE8D220K	22	MKA

#### MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
<b>E47</b>	XTW3+10J	TAPPING SCREW,STEEL	
<b>E48</b>	XYN3+F10S	SCREW W/WASHER,STEEL	
<b>E73</b>	TUX77809	CLAMPER	MKA
<b>E144</b>	LSSC0346	HEAT SINK SUPPORT ANGLE	MKA
<b>E145</b>	LUS63001A	HEAT SINK	MKA
<b>E146</b>	XTW3+8J	TAPPING SCREW,STEEL	

### 12.3.6. CAPSTAN STATOR C.B.A. NR ■

#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC2501	AN3846SC	IC, LINEAR CAP./LOADING DRIVE	
	OR AN3845SC	IC, LINEAR CAP./LOADING DRIVE	

#### RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R2501	ERJ8GEYJ1R0Z	MGF CHIP 1/8W 1	
R2502	ERJ8GEYJ1R0Z	MGF CHIP 1/8W 1	
R2505	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	

### CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C2504	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C2506	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C2507	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C2508	ECUV1E104KBN	C CHIP 25V 0.1	
C2509	ECUV1E104KBN	C CHIP 25V 0.1	
C2510	ECUV1E104KBN	C CHIP 25V 0.1	
C2511	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C2517	ECUV1E104KBN	C CHIP 25V 0.1	
C2519	ECUV1H102KBN	C CHIP 50V 1000P	
C2520	ECUV1C225ZFN	C CHIP+80%-20% 16V 2.2	
C2521	ECUV1C225ZFN	C CHIP+80%-20% 16V 2.2	
C2522	ECUV1C225ZFN	C CHIP+80%-20% 16V 2.2	

### PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P2503	VJSS3337	CONNECTOR 2P	

### MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
<b>E127</b>	XQN2+B35	SCREW,STEEL	
<b>E128</b>	XYN2+J7	SCREW W/WASHER,STEEL	
<b>E129</b>	LSMA0384	BACK PLATE,STEEL	
<b>E130(IC2505)</b>	EZMPS300F12	MR HEAD	
<b>E131(P2502)</b>	LSJS0097	CONNECOR 12P	

## 12.3.7. HEAD AMP C.B.A. ( A ) ■

### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC3501	AN3371SB	IC, LINEAR HEAD AMP	

### RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R3502	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3503	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3507	ERJ6GEYJ331V	MGF CHIP 1/10W 330	

### CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C3504	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C3506	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3508	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3511	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3512	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3513	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3528	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3529	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	

## COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L3501	ELESN101KA	100	

## PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P2601	LSJS0096	CONNECTOR 12P	
P3501	LSJS0093	CONNECTOR 10P	
P4091	LSJWM6S085AC	CONNECTOR CABLE W/OUT PLUG,AC40VP-P	

## 12.3.8. HEAD AMP C.B.A. ( B,C ) ■

### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC3501	AN3361SB	IC, LINEAR HEAD AMP	

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R3501	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R3502	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3503	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3504	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3505	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3506	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3507	ERJ6GEYJ561V	MGF CHIP 1/10W 560	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C3504	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C3506	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3507	ECUV1H102KBN	C CHIP 50V 1000P	
C3508	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3511	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3512	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3513	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3519	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C3520	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C3523	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3524	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3528	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3529	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3532	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3533	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	

### COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L3501	ELESN101KA	100	

### PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P2601	LSJS0096	CONNECTOR 12P	
P3501	VJSS0883	CONNECTOR 12P	
P4091	LSJWM6S085AC	CONNECTOR CABLE W/OUT PLUG,AC40VP-P	

## 12.3.9. Hi-Fi AUDIO/VIDEO HEAD AMP C.B.A. ( D,E ) ■

### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC3501	AN3361SB	IC, LINEAR HEAD AMP	
IC4401	AN3328S	IC, LINEAR Hi-Fi AUDIO HEAD AMP	

### RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R3501	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R3502	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3503	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3504	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3505	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3506	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3507	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4405	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4406	ERJ6GEYJ180V	MGF CHIP 1/10W 18	
R4407	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R4408	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4410	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4411	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	

### CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C3504	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C3506	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3507	ECUV1H102KBN	C CHIP 50V 1000P	
C3508	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3511	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3512	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3513	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C3519	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C3520	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C3523	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3524	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3528	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3529	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C3532	ECUV1E104ZFN	C CHIP+80%-20% 25V 0.1	
C3533	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4401	ECUV1H102KBN	C CHIP 50V 1000P	
C4402	ECUV1H102KBN	C CHIP 50V 1000P	
C4405	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4406	ECUV1H472KBN	C CHIP 50V 4700P	
C4408	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4409	ECUV1H103ZFN	C CHIP+80%-20% 50V 0.01	
C4411	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
C4412	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C4413	ECUV1H104ZFN	C CHIP+80%-20% 50V 0.1	
C4414	ECEA0JKA470	ELECTROLYTIC 6.3V 47	

### COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L3501	ELESN101KA	100	
L4401	VLQSH02R101K	100	

### PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P2601	LSJS0096	CONNECTOR 12P	
P3501	VJSS0886	CONNECTOR 20P	
P4091	LSJWM6S085AC	CONNECTOR CABLE W/OUT PLUG,AC40VP-P	

## 12.3.10. CRT C.B.A. ■

### TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q351	2SC3063		MKA
	OR 2SC3271F(N)		MKA
	OR 2SC3619		MKA
Q352	2SC3063		MKA
	OR 2SC3271F(N)		MKA
	OR 2SC3619		MKA
Q353	2SC3063		MKA
	OR 2SC3271F(N)		MKA
	OR 2SC3619		MKA

## RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R351	ERG2ANJ153H	METAL OXIDE 2W 15K	
R352	ERG2ANJ153H	METAL OXIDE 2W 15K	
R353	ERG2ANJ153H	METAL OXIDE 2W 15K	
R354	ERD25TJ272	2.7K	
R355	ERD25TJ272	2.7K	
R356	ERD25TJ272	2.7K	
R357	ERDS2TJ332	3.3K	
R358	ERDS2TJ332	3.3K	
R359	ERDS2TJ332	3.3K	
R360	ERDS2TJ331	330	
R361	ERDS2TJ331	330	
R362	ERDS2TJ331	330	
R363	ERDS2TJ101	100	
R364	ERDS2TJ101	100	
R365	ERDS2TJ101	100	

## CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C351	VCYSARH561KB	CERAMIC 50V 560P	
C352	VCYSARH561KB	CERAMIC 50V 560P	
C353	VCYSARH681KB	CERAMIC 50V 680P	
C354	VCKSKZM102KB	CERAMIC 2KV 1000P	MKA

## PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P351	VJWS4MN400AC	PARALLEL CONNECTOR 4P	MKA
P352	VJWS4NN360AC	PARALLEL CONNECTOR 4P	MKA
P353	TJSC01200	CRT SOCKET	MKA
P354	TEL302-5X		

## MISCELLANEOUS

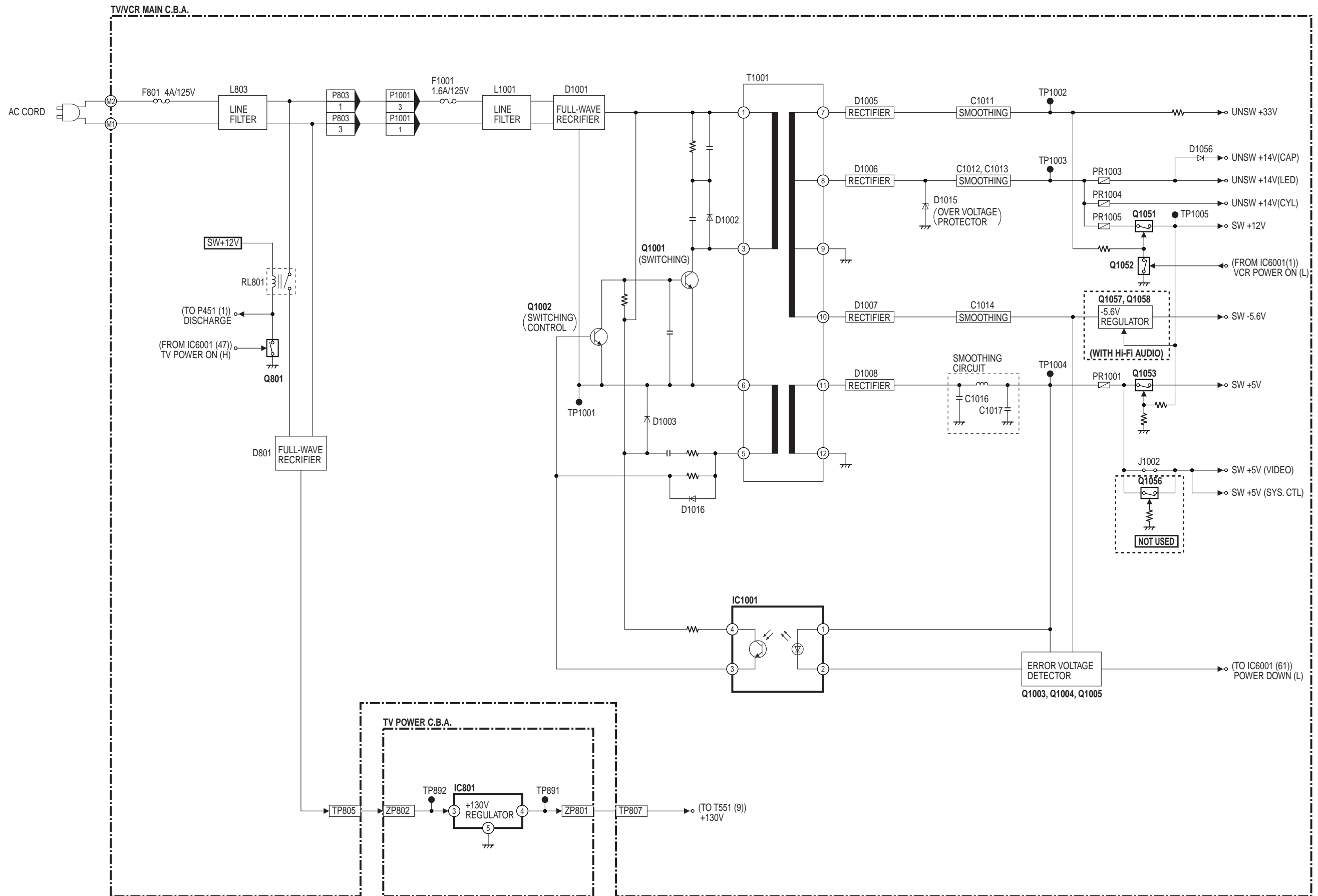
Ref. No.	Part No.	Part Name& Description	Remarks
E50	TMM7443-1	CLAMPER	

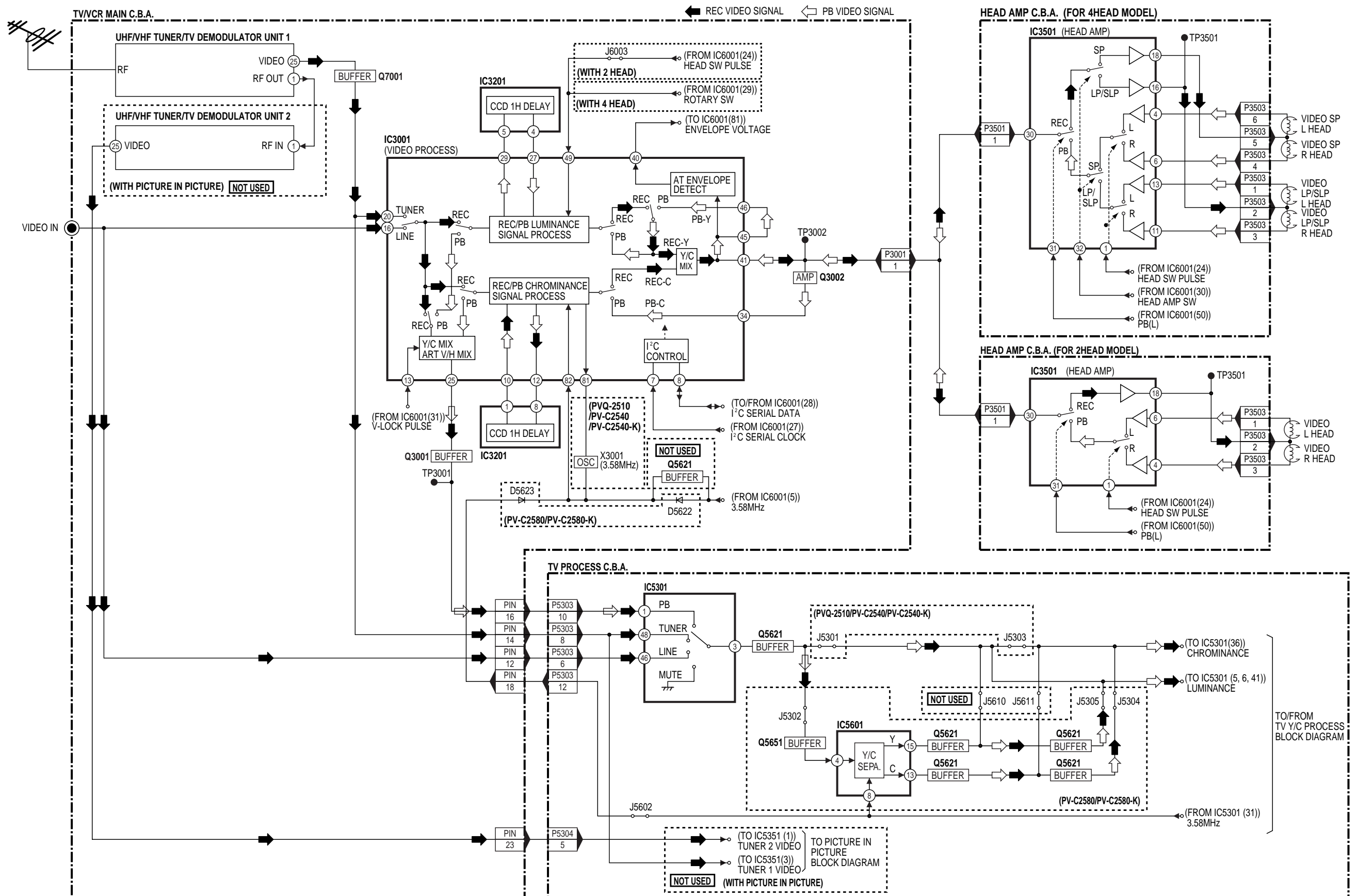
## 12.3.11. SUMMARY OF "E" ITEM NUMBERS

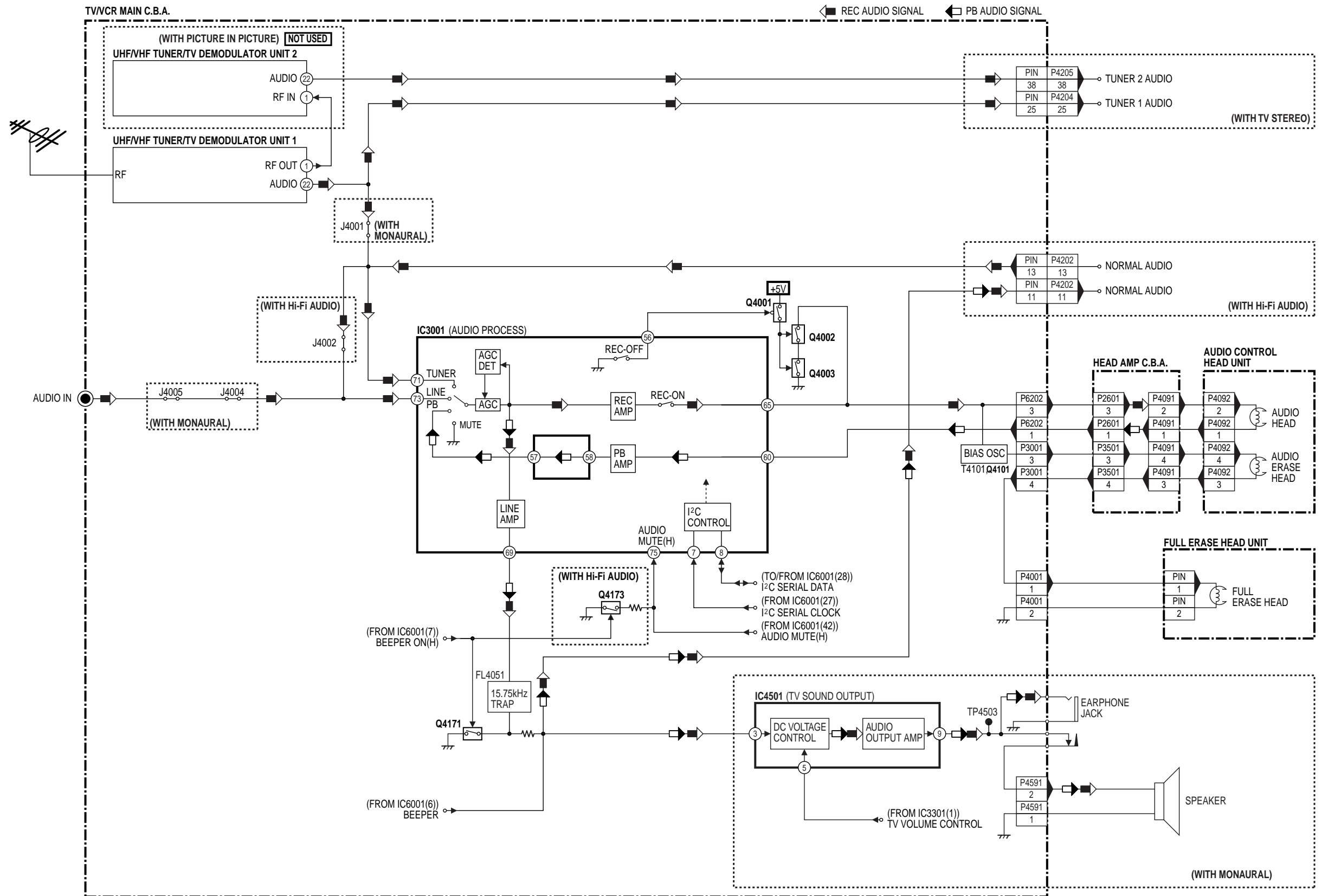
REFER TO ELECTRICAL PARTS LIST FOR MODEL INFORMATION

Ref. No.	Part No.	Part Name& Description	Remarks
E1	VEPS3083A	TV/VCR MAIN C.B.A.	RTL
E1	VEPS3083B	TV/VCR MAIN C.B.A.	RTL
E1	VEPS3083E	TV/VCR MAIN C.B.A.	RTL
E1	VEPS3083C	TV/VCR MAIN C.B.A.	RTL
E2	VEPS4034A	AUDIO C.B.A.	RTL
E6	VEPS5034Z	HEAD AMP C.B.A.	RTL
E6	VEPS5033Z	HEAD AMP C.B.A.	RTL
E6	VEPS5035Z	Hi-Fi AUDIO/VIDEO HEAD AMP C.B.A.	RTL
E12	LRP63017A	TV POWER C.B.A.	RTL
E17	LRP63005D	CRT C.B.A.	RTL
E21	ENG36702G	TUNER, UHF/VHF NR	
E21	ENG36701G	TUNER, UHF/VHF NR	
E22	LFX6106A	AC CORD W/PLUG,125V	
E22	LSJA0256	AC CORD W/PLUG,125V	
E23	EYF52BC	FUSE HOLDER	
E27	TSOP1837UH1	INFRARED RECEIVER UNIT	
E30	VMTS0035	CUSHION,RUBBER	
E39	VMAS1912	P.C.B. SUPPORT ANGLE	
E43	TUC77628	HEAT SINK	
E44	LML69001A	ANODE LEAD CLAMPER	
E46	XTV3+10G	TAPPING SCREW,STEEL	
E47	XTW3+10J	TAPPING SCREW,STEEL	
E48	XYN3+F10S	SCREW W/WASHER,STEEL	
E50	TMM7443-1	CLAMPER	
E51	TJC6319	FUSE HOLDER	
E55	XNG3	NUT,STEEL	
E73	TUX77809	CLAMPER	
E108	VMFS0136	SHEET,NYLON+RAYON	
E113	VEKS5712	FM RADIO ANTENNA CORD, 0V	
E126	VEMS0331	CAPSTAN STATOR C.B.A. NR	
E127	XQN2+B35	SCREW,STEEL	
E128	XYN2+J7	SCREW W/WASHER,STEEL	
E129	LSMA0384	BACK PLATE,STEEL	
E130(IC2505)	EZMPS300F12	MR HEAD	
E131(P2502)	LSJS0097	CONNECOR 12P	
E134	VEPS3084A	TV PROCESS C.B.A.	RTL
E134	VEPS3084B	TV PROCESS C.B.A.	RTL
E135	LRP63019A	VERTICAL C.B.A.	RTL
E136	LSSC0348	SHIELD PLATE,STEEL	
E137	VSCS1072	HEAT SINK	
E138	XYN3+F8S	SCREW W/WASHER,STEEL	
E139	VEPS4033A	FM TRANSMITTER C.B.A. NR	
E141	VMXS0414	SPACER	
E142	LML69002A	CLAMPER	
E143	LUS63008A	HEAT SINK	
E144	LSSC0346	HEAT SINK SUPPORT ANGLE	
E145	LUS63001A	HEAT SINK	
E146	XTW3+8J	TAPPING SCREW,STEEL	
E147	LSMB0226	FM ANTENNA	
E148	LSGF0037	BARRIER	









# AUDIO C.B.A.

REC AUDIO SIGNAL

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 1 AUDIO

PIN 25

P4203 25

R9003 SEPARATION

TP9003

IC9001 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9008 SEPARATION(H)

R9001 SEPARATION(L)

TP9002

TP9001

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

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AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

TP9102

TP9101

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

TP9102

TP9101

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

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AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

TP9102

TP9101

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

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AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

TP9102

TP9101

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

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AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

MODE SELECTOR

LED DRIVE

18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

TP9102

TP9101

J9001

J9002

IC9002

AMP 5 7

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

AMP 3 1

(WITH PICTURE IN PICTURE) NOT USED

FROM AUDIO  
SIGNAL PATH  
BLOCK DIAGRAM

TUNER 2 AUDIO

PIN 38

P4205 38

R9103 SEPARATION

TP9103

IC9101 (MTS/SAP SIGNAL PROCESS)

MTS/SAP SIGNAL PROCESS

L-CH 23

R-CH 22

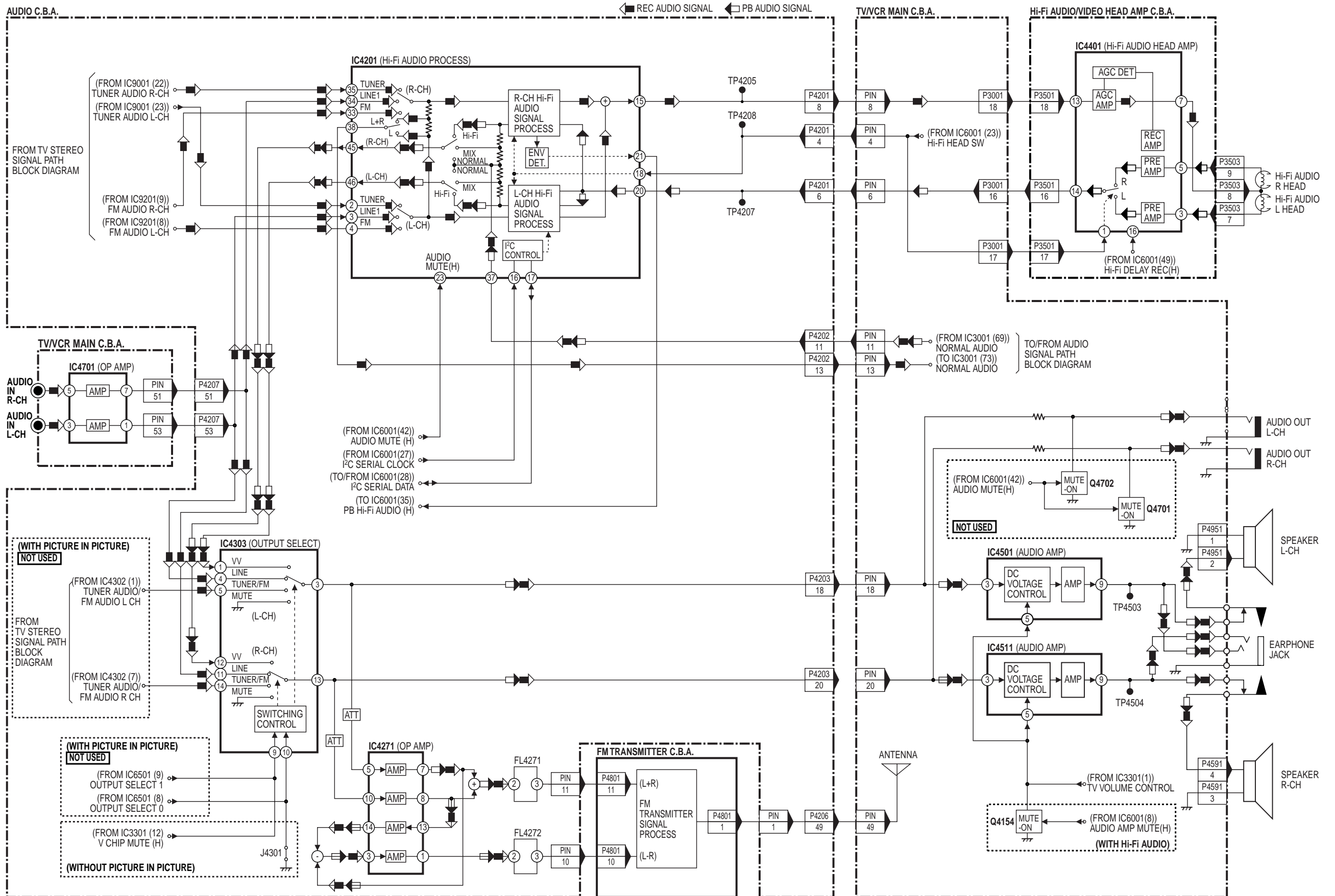
MODE SELECTOR

LED DRIVE

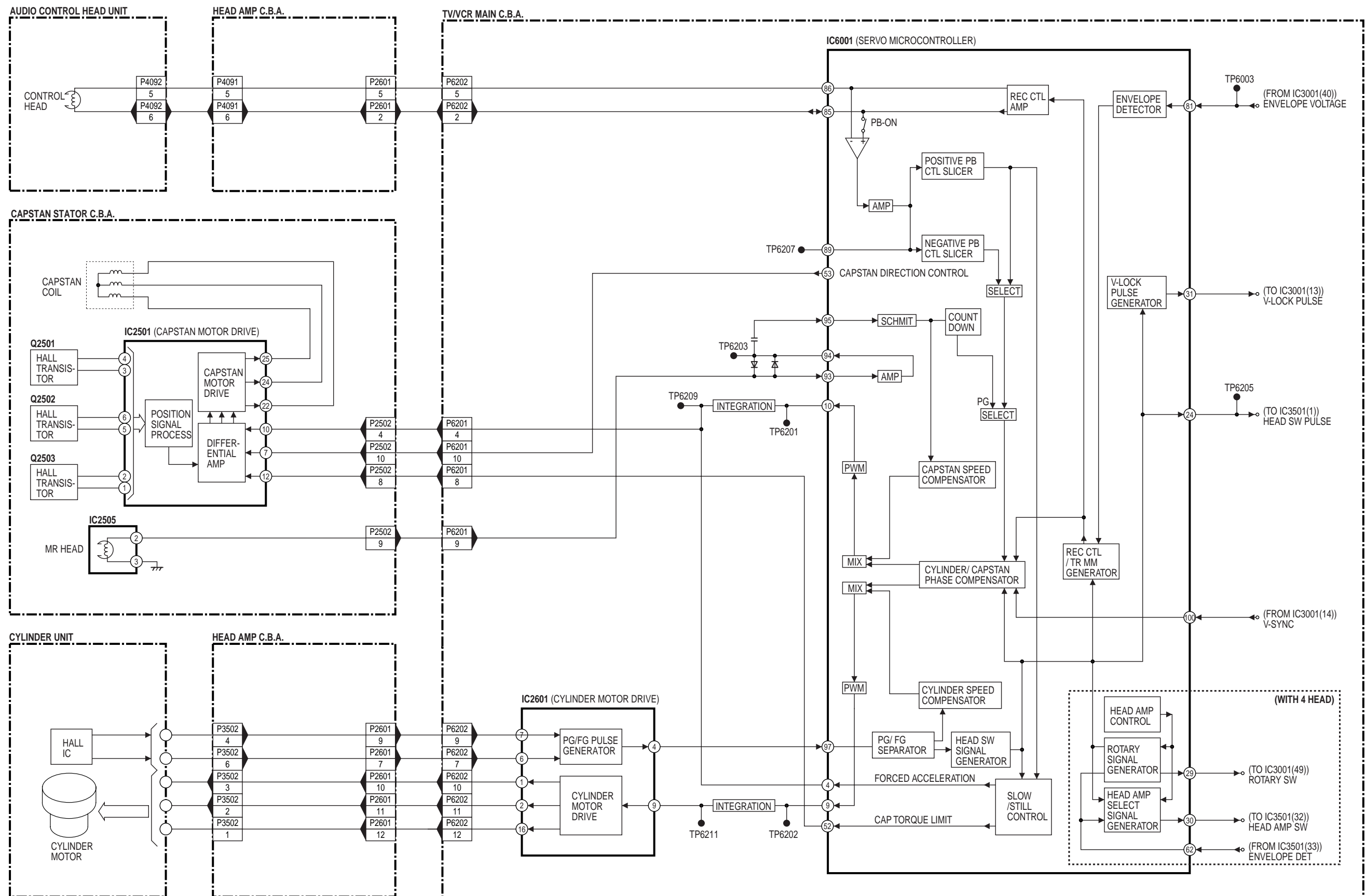
18 17 19 11 12 2 1 29

R9108 SEPARATION(H)

R9101 SEPARATION(L)

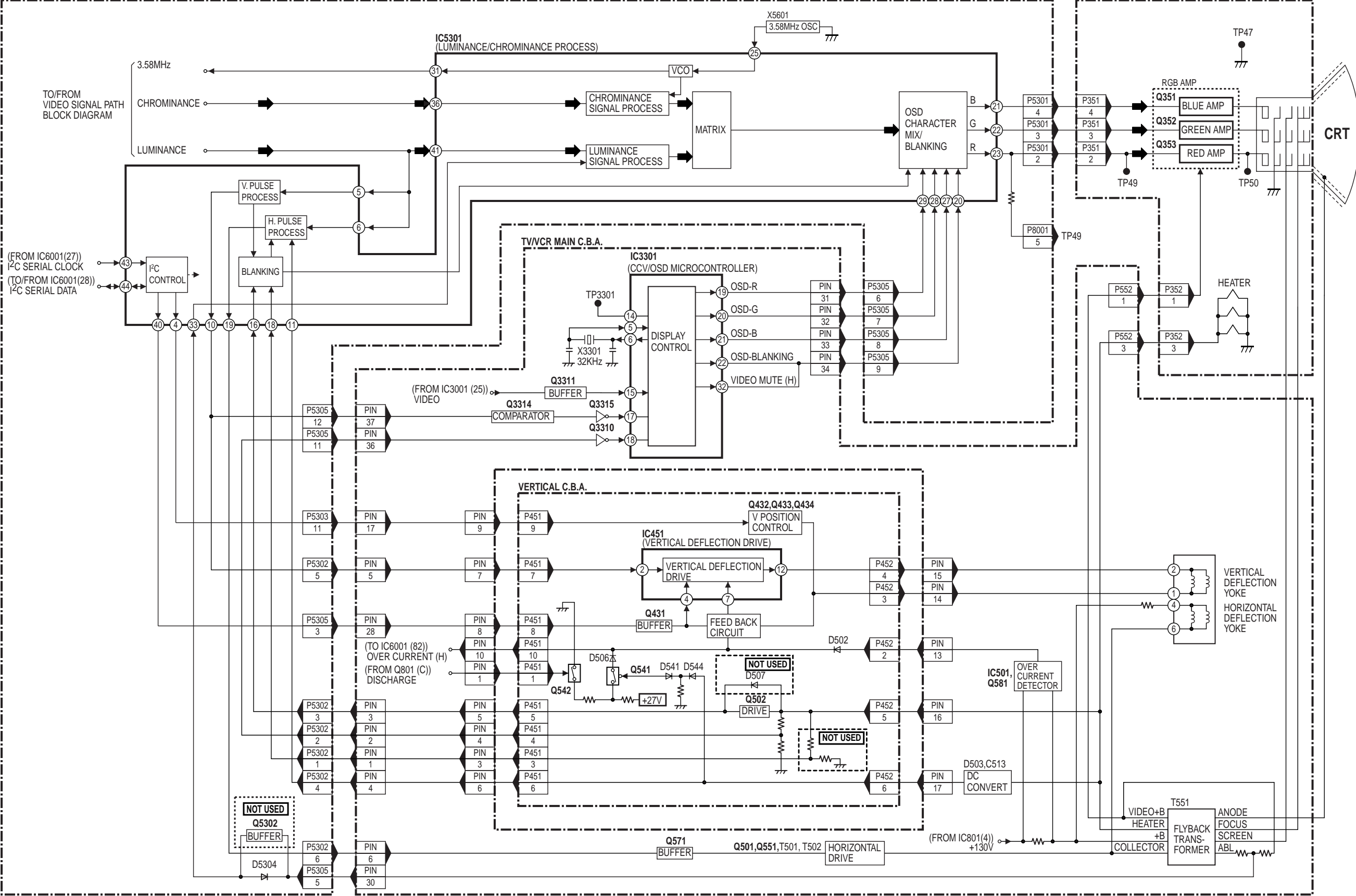




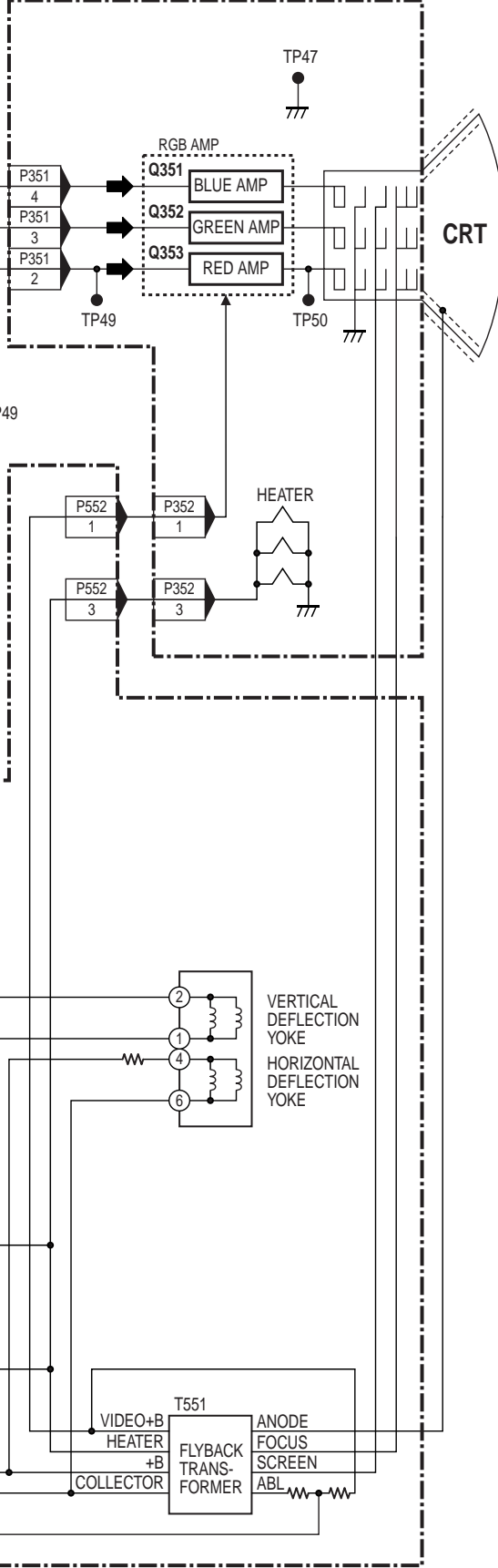




TVPROCESS C.B.A.




CRT C.B.A.





MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

**IMPORTANT SAFETY NOTICE:**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 4A 125V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MÊME  
TYPE 4A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE **1.6A 125V** FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE NI UTILISER QUE DES FUSIBLES DE MÊME  
TYPE **1.6A 125V**

**NOTE:**  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



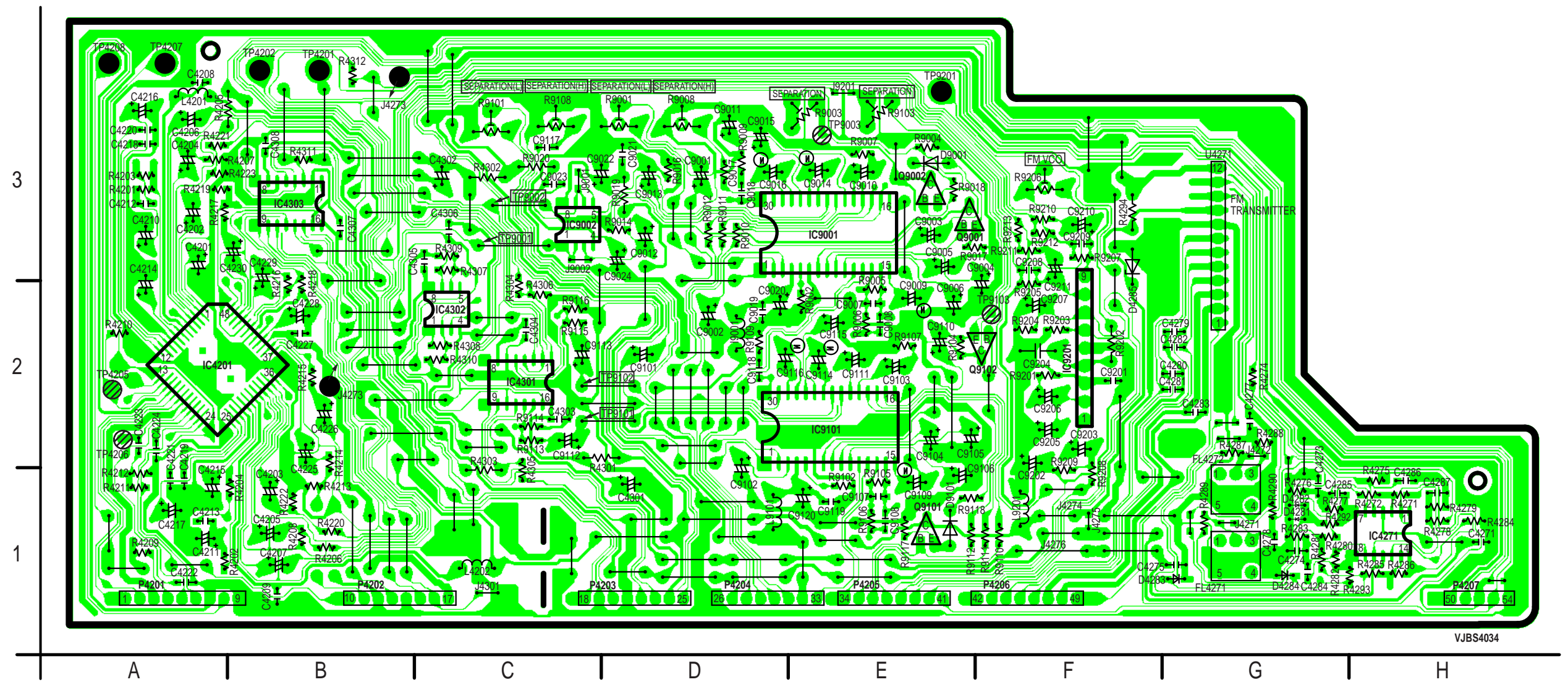
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

## COMPARISON CHART OF MODELS & MARKS


MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E



COMPARISON CHART  
OF MODELS & MARKS

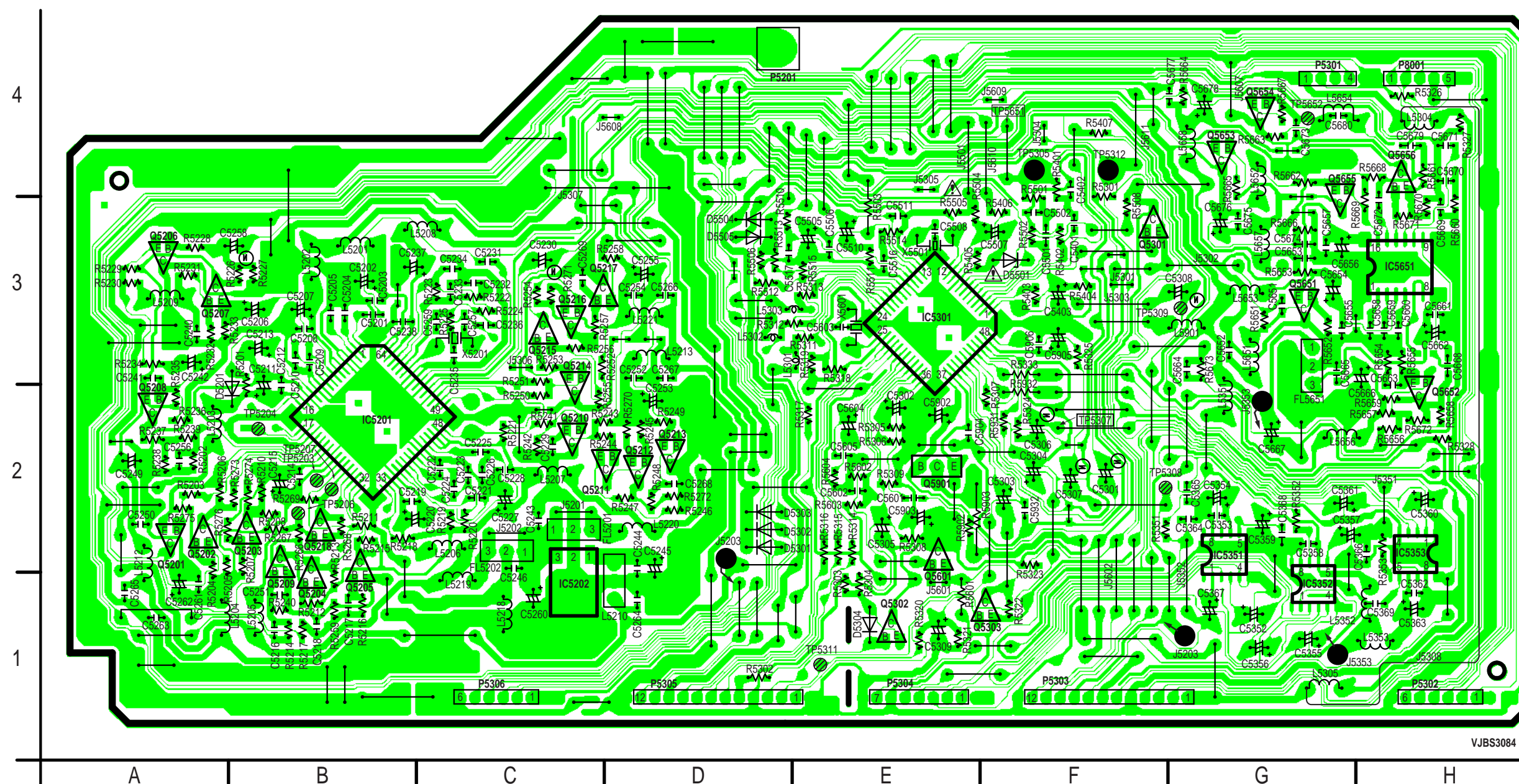
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

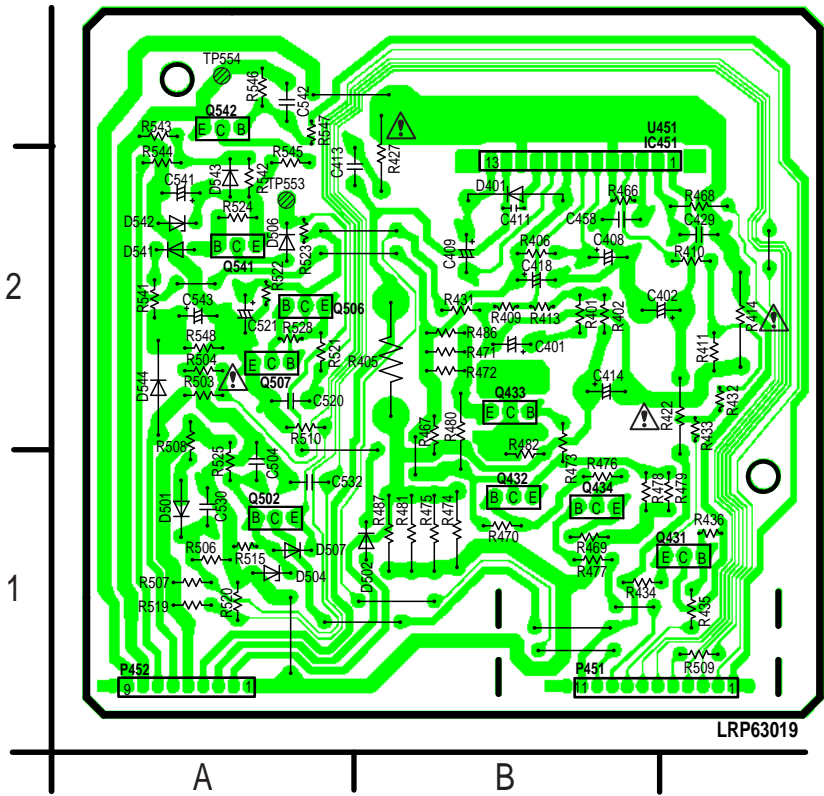




VERTICAL C.B.A. LRP63019A

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

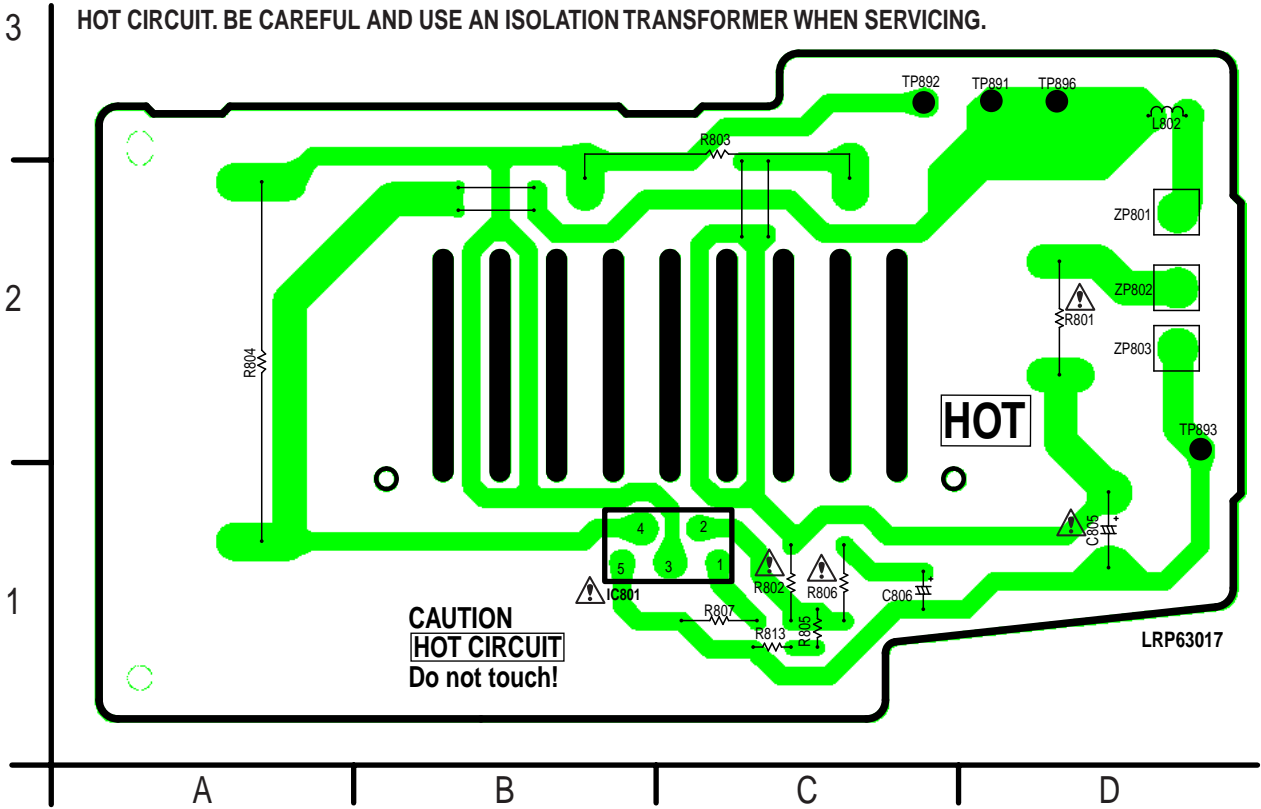


IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

TV POWER C.B.A. LRP63017A

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



CAPSTAN STATOR C.B.A. VEMS0331

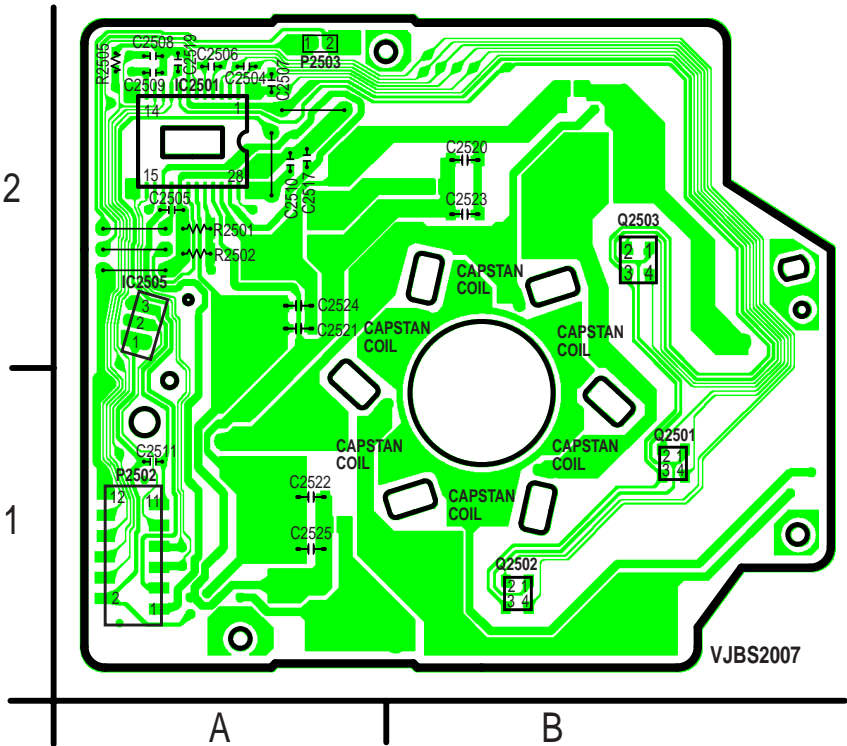
NOTE:  
WHEN INSTALLING THE IC2501(AN3845SC) OR CAPSTAN STATOR C.B.A., BE SURE  
TO APPLY SILICON GREASE(VFK1301). REFER TO "CAPSTAN STATOR C.B.A."  
OF MACHANISM SECTION IN DISASSEMBLY/ASSEMBLY PROCEDURES.

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

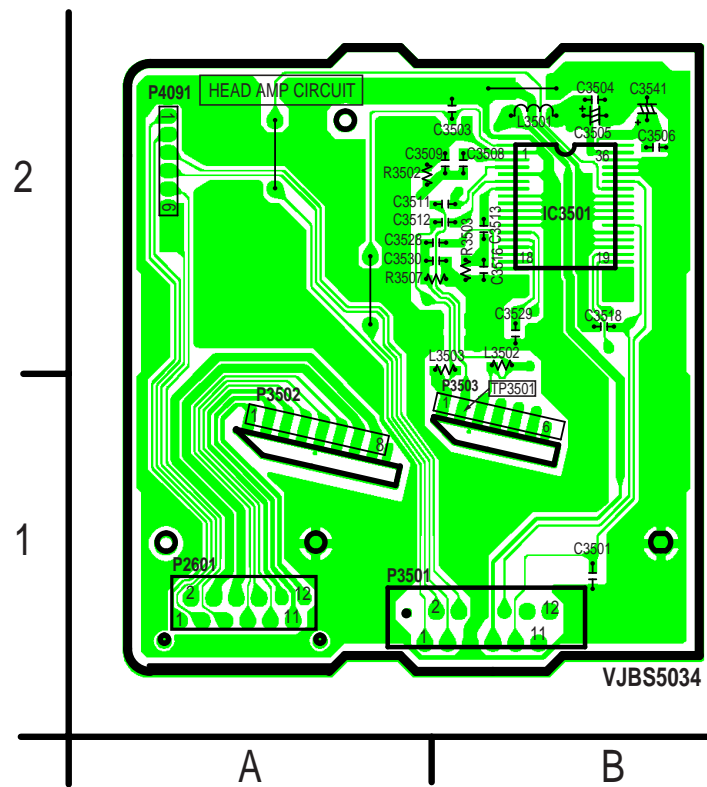
NOTE:  
THE FOLLOWING PARTS ON THE CAPSTAN STATOR C.B.A. ARE NOT SUPPLIED SEPARATELY.  
PLEASE ORDER AND REPLACE WITH THE CIRCUIT BOARD ASSEMBLY INSTEAD OF INDIVIDUAL PARTS.  
(Q2501, Q2502, Q2503, CAPSTAN COIL)

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.



## HEAD AMP C.B.A. VEPS5034Z (A)

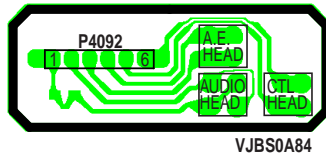
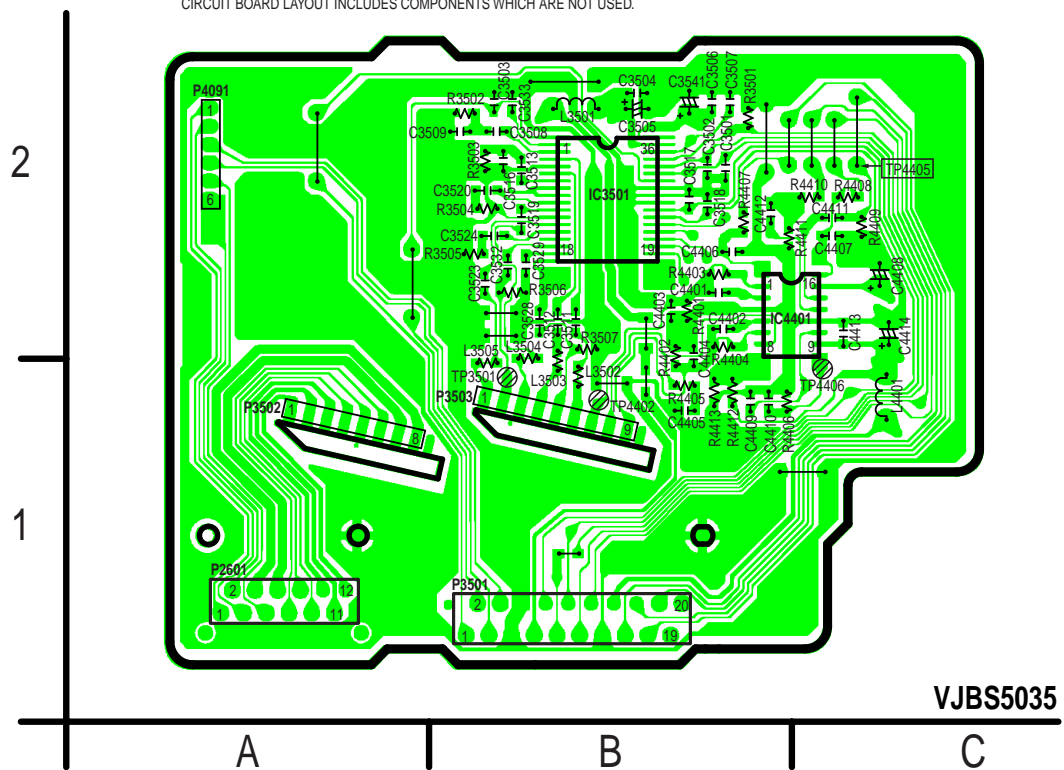
NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.



## Hi-Fi AUDIO/VIDEO HEAD AMP C.B.A. VEPS5035Z (D, E)

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



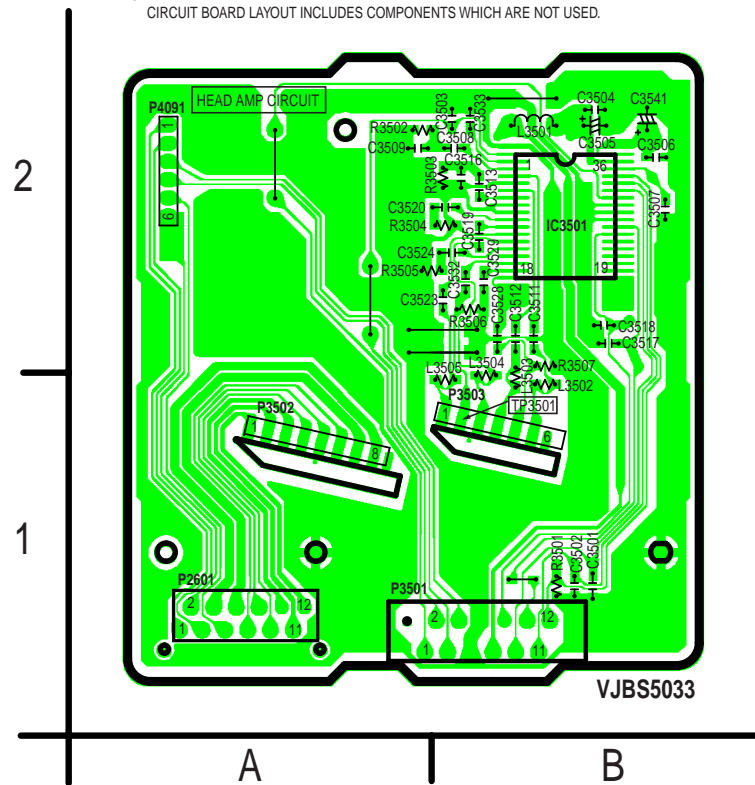
## COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

## HEAD AMP C.B.A. VEPS5033Z (B, C)

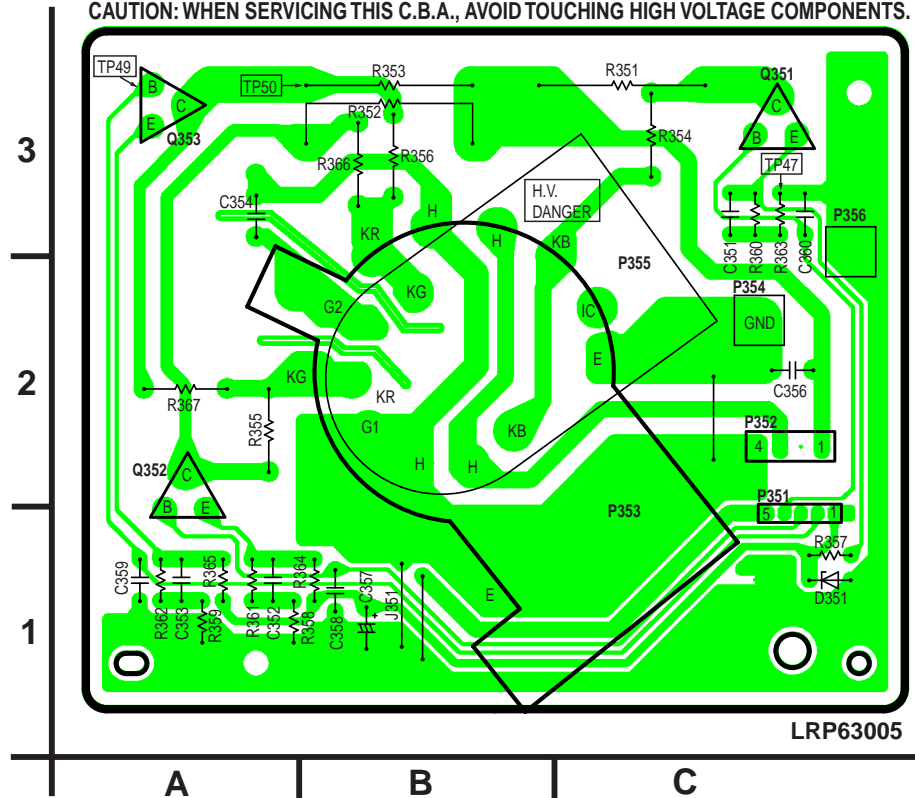
NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



**CRT C.B.A. LRP63005D**

**CAUTION: WHEN SERVICING THIS C.B.A., AVOID TOUCHING HIGH VOLTAGE COMPONENTS.**



NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.  
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

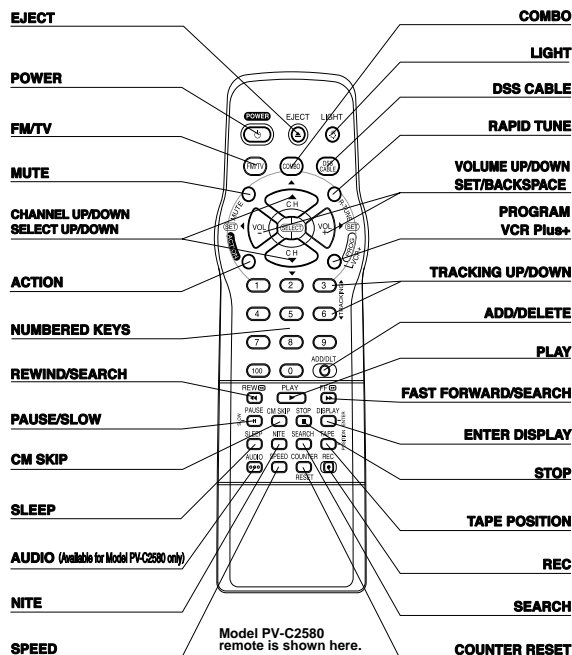
NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

## Remote Control Buttons

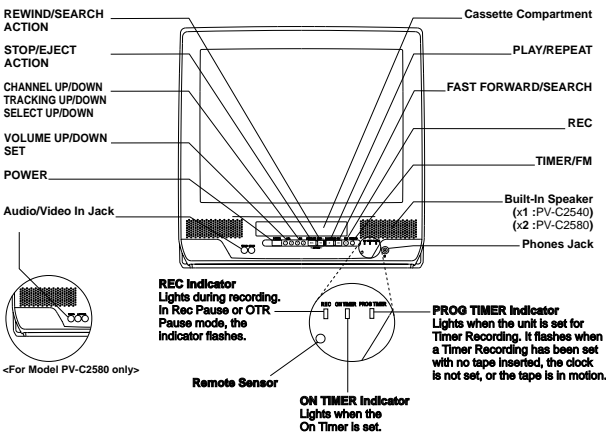
**LIGHT** button:

When the LIGHT button is pressed, the buttons which can be activated in the selected mode will light and the selected mode button (COMBO or DSS CABLE) will flash for 5 seconds. If no buttons are pressed within 5 seconds, the light will turn off in order to conserve battery power. Also, while holding down the buttons, the selected mode button will flash so you will be able to see, in the dark, which mode has been selected.

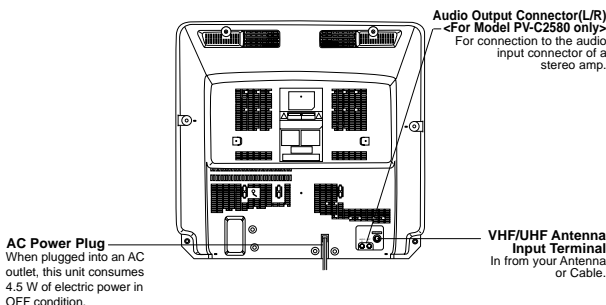
**EJECT button:**  
When EJECT is pressed, the tape is ejected from Cassette Compartment.  
If EJECT is pressed during recording, the unit will not respond to the command.



Model PV-C2540 unit is shown here



Model PV-C2580 unit is shown here

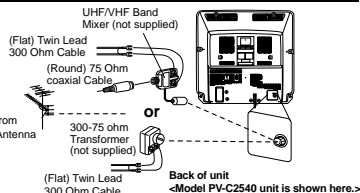


## Outdoor Antenna Connection

Unhook the antenna from your previous TV or VCR and connect it to the back of the unit as shown in the diagram.

If your antenna system has separate UHF and VHF lead-ins, you need a UHF/VHF Band Mixer (not supplied.)

**WARNING:**  
When using "Nut type" RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.



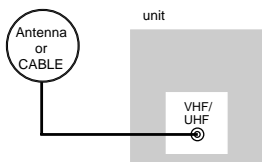
### ■ Without a Cable Box

You can;

- record or view unscrambled channels.

You cannot;

- record or view scrambled channels.
- view a channel other than the one selected for any type of recording.



### ■ With a Cable Box

**You can;**

- record or view any channel including scrambled channels.

**NOTE:** Channel selection must be made at the cable box.

**You cannot;**

- view a channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the cable box.

**Note to CABLE System Installer**  
This reminder is provided to call the CABLE (Cable TV) System Installers attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

### ■ With a DSS Receiver

**You can;**

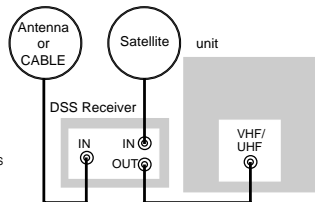
- record or view any channel including scrambled channels.

**NOTE:** Channel selection must be made at the DSS Receiver.

**You cannot;**

- view a channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the DSS box.

**NOTE:** The DSS receiver must be turned off to view programs from a cable box or antenna. See the DSS manual for details.



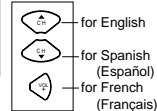
When the unit is turned on the first time, setup mode is entered automatically.

When the unit is turned on the first time, setup mode is entered automatically.



2

Select the language.

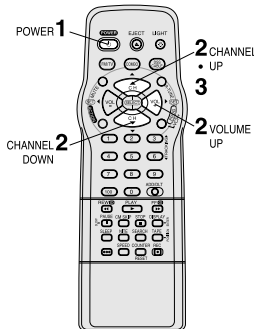


- If you use a cable box, it must be left on

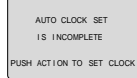
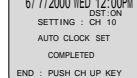
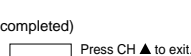
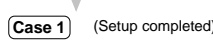
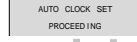


Start Channel Auto Set

**and Clock Auto Set.**



Model PV-C2540  
remote is shown here



**See Case 2**

- If your area observes daylight saving time and DST is set to ON, but the time is incorrect; complete the Time Zone Adjust steps.

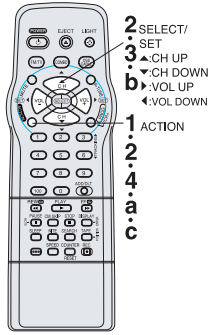
#### IMPORTANT NOTE FOR AUTO CLOCK SET

- IMPORTANT NOTE FOR AUTO CLOCK SET:**
- The auto clock set feature is performed the first time when the unit is turned off each day. If used, a cable box must be left on and the unit must remain on until the time when the unit power is turned off if you want auto clock set to be done.
- If using a DSS receiver, it must be turned off for auto clock set.
  - If a Cable Box or DSS receiver is connected to the unit via Audio/Video Jacks, an RF coaxial cable must also be connected for auto clock set and channel auto set features.
  - If for any reason the time is changed manually, automatic time correction will not occur.

# One Time Setup (continued)

## Case 1 Set TIME ZONE ADJUST.

- Display MAIN MENU.**  
Press ACTION.
- Display SET CLOCK screen.**  
1) Press ▲▼ to select "CLOCK".  
2) Press ACTION to display.
- Select TIME ZONE ADJUST.**  
1) Press ▲▼ to select.  
2) Press ▲ to subtract or add hour(s) as necessary.
- End setup.**  
Press ACTION twice.  
• TIME ZONE ADJUST returns to "0" if clock is set manually.



Model PV-C2540 remote is shown here.

### Notes

- This unit's calendar is accurately maintained up to Dec. 31, 2089, 11:59 PM.
- Channel auto set selects normal TV or Cable channels depending on your unit hookup.

### ACTION key on the unit

You can operate the menu screen using unit buttons.  
To display the menu, press STOP/EJECT and REW together with no tape inserted. To exit the menu, repeat above with or without tape inserted.

### Using ▲▼ keys

- ▲: CH UP
  - ▼: CH DOWN
  - ▶: VOLUME UP
  - ◀: VOLUME DOWN
- Whenever the menu or program screen is displayed, CHANNEL UP/DOWN function as ▲ and VOLUME UP/DOWN function as ▶ only.

# Timer Programming using VCR Plus+® System

## VCR Plus+ System is...

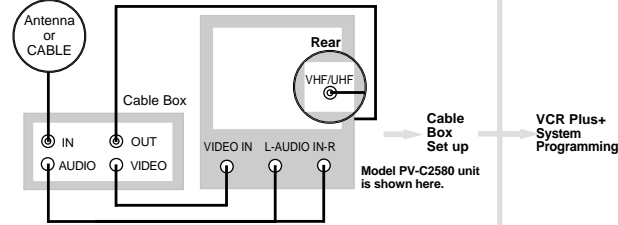
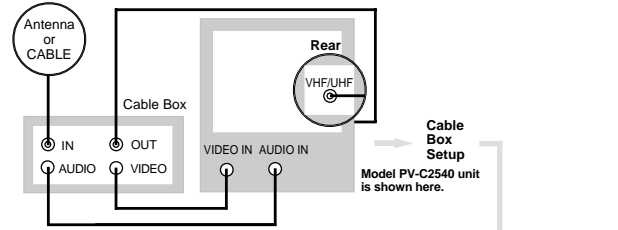
a feature that allows you to set most items of a Timer Recording by simply entering a special code number (PlusCode) found in TV GUIDE and selected newspaper TV listings.

## Process of Recording

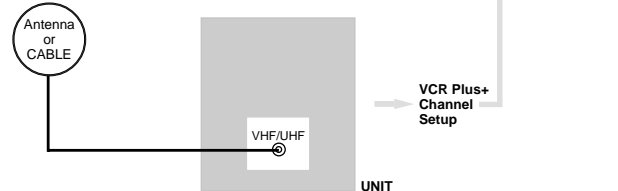
Connection ⇒ Setup ⇒ Programming

Choose your connection type from the following diagrams

### ■ CABLE BOX → UNIT



### ■ ANTENNA or CABLE → UNIT



# Timer Programming using VCR Plus+® System (continued)

## Cable Box Setup

## Process of Recording

Connection ⇒ Setup ⇒ Programming

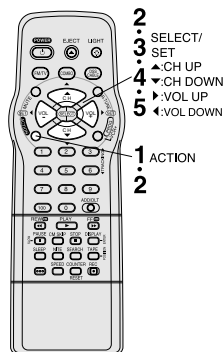
- Display MAIN MENU.**  
Press ACTION\*.
- Display SET UP CH screen.**  
1) Press ▲▼ to select "CH".  
2) Press ACTION to display.
- Select CABLE BOX SET UP.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.
- Select "YES" or "NO."**  
1) Press ▲▼ to select "YES" or "NO."  
2) Press ▶ to set.

If you select...

- "YES" → Step 5.
- "NO" → Press ACTION ▼ Go to VCR Plus+ Channel Setup.

- Select Cable Box output channel number.**  
1) Press ▲▼ to select.  
2) Press ▶ to enter.

- If necessary, refer to your cable box manual.
- If you are using Audio/Video jack connection for your cable box, select and set "VIDEO OUT" as the output channel.



Model PV-C2540 remote is shown here.

VCR Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation.  
The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

## VCR Plus+ Channel Setup is...

necessary to program the unit with local channel information for proper VCR Plus+ operation.

## Process of Recording

Connection ⇒ Setup ⇒ Programming

## VCR Plus+ Channel Setup

At first, do Channel Setup Preparations below right.

- Display MAIN MENU.**  
Press ACTION\*.
- Display SET UP CH screen.**  
1) Press ▲▼ to select "CH".  
2) Press ACTION to display.
- Select VCR Plus+ CH SET UP.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.
- Enter VCR Plus+ channels.**  
1) Press ▶ to move cursor to right column.  
2) Press ▲▼ to change the CABLE CH number.  
3) Press ◀ to set.  
4) Press ▲▼ to scroll up/down the GUIDE CH column.

\* Repeat step 4 until list is complete.

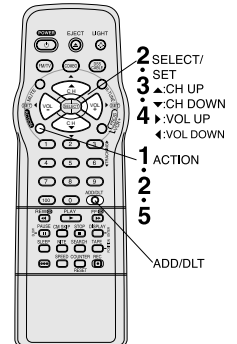
### To Make Corrections

Press ▲ and ▶ to move to error, then ▲▼ to change, or ADD/HLT to erase number.

- End the setup.**  
Press ACTION three times.

### Notes

- Make each entry within 5 minutes or the unit will leave this mode.
- Once local channels have been programmed, they will stay in memory, even in the case of a power failure.



Model PV-C2540 remote is shown here.

## Channel Setup Preparations

To complete step 4 left, make a local channel list (see example below.)

- You will need the following:
- A normal TV and/or Cable stations line up and the channel numbers you receive them on.
  - A list of Guide (VCR Plus+) channel numbers for stations you receive (see TV Guide and selected newspapers.)
- 1 Make a 3-column chart. In the left column, write all station names you receive.
  - 2 In the middle column, write each station's Guide (VCR Plus+) number.
  - 3 In the right column, write the channel number your TV receives the station on.

< EXAMPLE ONLY >

Broadcast or Cable Station Name	Assigned Guide (VCR Plus+) Channel no.	Channel no. your TV receives the station on
HBO	33	15
Nickelodeon	38	20
CBS	34	04
FOX	11	



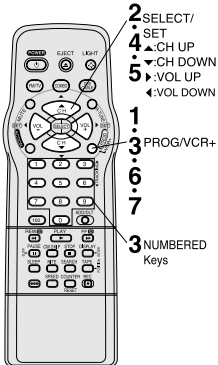
# Timer Programming using VCR Plus+ System (continued)

## VCR Plus+ System Programming

Process of Recording  
Connection → Setup → Programming

- Display PROGRAM screen.**  
Press PROG/VCR+.
- Select VCR Plus+ PROGRAM.**  
1) Press **▲** to select.  
2) Press **▶** to display.
- Enter PlusCode programming number.**  
1) Press NUMBERED keys.  
2) Press PROG/VCR+ when finished.
- Set Record Frequency.**  
1) Press **▲** to select.  
2) Press **▶** to set.
- Set Category and Record speed.**  
1) Press **▲** to select.  
2) Press **▶** to set.
- End programming.**  
Press PROG/VCR+ (or ACTION.)
- Exit this mode.**  
Press PROG/VCR+ (or ACTION) twice.  
• PROG TIMER indicator lights on the unit.

- ☒ Check list before you begin.
- ☐ The clock is set to correct time.
  - ☐ VCR Plus+ System Setup is complete.



Model PV-C2540 remote is shown here.

Use normal Timer Recording steps if:

- a program PlusCode programming number is not listed.
- program, such as a sporting event, may run over scheduled stop time.

### Notes

- You can obtain unlisted PlusCode programming numbers by calling 1-900-454-7587. Call costs approximately \$.95 per minute.
- Avoid overlapping program times.
- If you're using a cable box, make sure that it is turned to the desired channel and the power is left on for timer recording.
- Timer programs memory capacity is 8.
- To add more programs, please first clear other programs.

# TV Timer Features

## ON-TIMER with Alarm

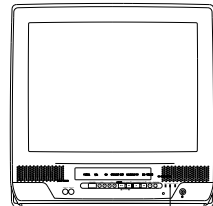
This unit can be set to automatically power on in one of 3 modes (TV, Playback, or FM radio.) You can also combine the On-Timer with a one minute alarm that gradually increases in volume.

- Display PROGRAM screen.**  
Press PROG/VCR+.
- Select ON-TIMER.**  
1) Press **▲** to select.  
2) Press **▶** to display.
- Set the ON-TIMER TIME.**  
1) Press **▲** to select.  
2) Press **▶** to set.  
• Make sure a tape is inserted if Playback mode is selected.  
• See "FM Radio" on for instructions on how to preset FM stations.
- Set Alarm.**  
Press **▲** to select "ON" or "OFF."  
When "ON" is selected, an alarm will gradually increase in volume for one minute or until canceled by pressing any button (including VOL + -).  
**To Make Corrections,** use **▲** and **◀** to move back and correct as necessary.
- Set ON TIMER.**  
Press PROG/VCR+.  
• "ON TIMER SET" is displayed.  
• ON TIMER indicator lights on the unit.

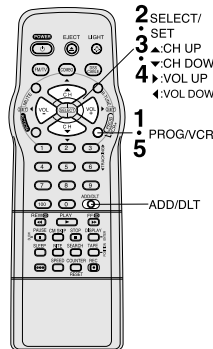
**To cancel ON-TIMER set,**  
Repeat steps 1 and 2. Then, press ADD/DLT to clear the time in step 3. Now, press PROG/VCR+ to end. "ON TIMER END" appears on-screen for a few seconds.

- ☒ Check list before you begin.
- ☐ The clock is set to correct time.

Model PV-C2540 unit is shown here.



ON TIMER indicator



Model PV-C2540 remote is shown here.

### Note

If no button on the remote or unit (including a button used to turn off the alarm) is pressed within 60 minutes after unit turns itself on, it will turn itself back off.

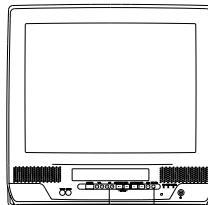
# TV Timer Features (continued)

## SLEEP TIMER

This unit can be set for auto power off.

- Set SLEEP TIMER.**  
Press SLEEP repeatedly.  
• Pressing DISPLAY with sleep timer set displays remaining time.
- To Cancel,** press SLEEP repeatedly until "SLEEP TIMER 00" appears.

Model PV-C2540 unit is shown here.

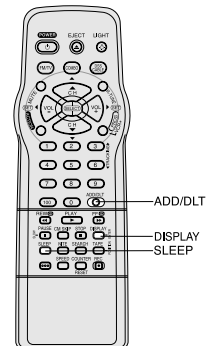


2 CH ▲ 1 TIMER/FM

## INSTANT ALARM

The feature allows you to set a timer alarm for up to 60 minutes. Useful for when you are cooking and need to leave the kitchen.

- Display INSTANT ALARM screen.**  
Press TIMER/FM on the unit to display.
- Set Alarm.**  
Press CH **▲** on the unit to select time while "CANCEL" and "SET" are displayed (see below.)  
Press TIMER/FM on the unit repeatedly to change display as follows.



Model PV-C2540 remote is shown here.

**To cancel,** press ADD/DLT while "CANCEL" and "SET" are displayed.

**To increase timer in progress,** Press CH **▲** on the unit to restart countdown rounded up to next 1, 5, or 10 minute interval while "CANCEL" and "SET" are displayed.

**<Example>**  
• If current time remaining is 12:15, countdown will restart from 15:00.  
• If current time remaining is 9:15, countdown will restart from 10:00.

- Alarm will sound at 0:00.**  
Press any button to stop.  
• The volume of the alarm gradually increases for one minute and then continues to beep until any button is pressed.

### Note

While timer function is in progress, you can change channels on the unit with CH **▲** while "CANCEL" and "SET" are not displayed.

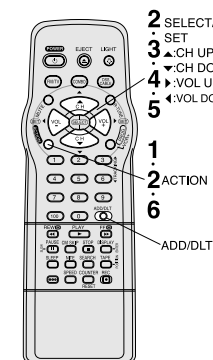
# Special VCR Features

## Preset Caption

- Display MAIN MENU.**  
Press ACTION\*.
- Display SET UP CH screen.**  
1) Press **▲** to select "CH."  
2) Press ACTION to display.
- Select CHANNEL CAPTION.**  
1) Press **▲** to select.  
2) Press **▶** to display.
- Select PRESET CAPTION.**  
1) Press **▲** to select.  
2) Press **▶** to display.  
• To create your own captions, go to "Manual Caption".
- Go with preset captions.**  
1) Press **▲** to select a station.  
2) Press **▶** to move cursor to the right.  
3) Press **▲** to select channel number.  
4) Press **◀** to set.

**Channel Caption is ...**  
Station names, e.g. ABC, TNN, etc. so that they will appear when a channel is selected. Choose 24 preset names (Preset Caption), or make up to 10 names of your own (Manual Caption).

- ☒ Check list before you begin.
- ☐ You need a list of stations and the channel numbers you receive them on.



Model PV-C2540 remote is shown here.

**To Make Corrections**  
Press **▲**, then **▶** to select channel number. Press **▲** to change, or ADD/DLT to delete.

- End setup.**  
Press ACTION four times.

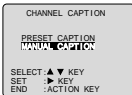


# Special VCR Features (continued)

## Manual Caption

**1** Do "Preset Caption" steps 1-3 (previous section.)

**2** **Select MANUAL CAPTION.**



- 1) Press **▲▼** to select.
- 2) Press **▶** to display.



**3** **Select Channel number.**

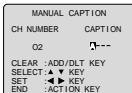


- 1) Press **▲▼** to select CH NUMBER.
- 2) Press **▶** to move cursor to the right.



- Channels already set and channels deleted from Channel Memory are not displayed.
- You can set a total of ten channel captions with up to four characters each.

**4** **Enter your caption.**



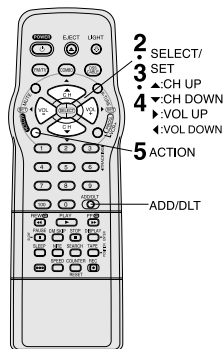
- 1) Press **▲▼** to select.
- 2) Press **▶** to enter.



- Characters change in the following order.

→ A—B—C—...—Z—BLANK— —&—  
→ 9—...—2—1—0—/—!—

- Press **◀** repeatedly to move the cursor to "Ch NUMBER." Repeat steps 3 and 4 as desired.



Model PV-C2540 remote is shown here.

### To Make Corrections

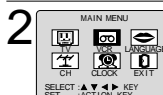
Press **▲▼**, then **▶** to select channel number.  
Press **▲▼** to change, or ADD/HLT to delete.

**5** **End setup.**  
Press ACTION four times.

## Time Stamp Feature

This unit writes program data (see example below) for about the first 10 seconds of every recording.  
The information is then displayed during the first 10 seconds of playback. To change the data, see "Changing Time Stamp Data" section.

**1** **Display MAIN MENU.**  
Press ACTION\*.



**2** **Display SET UP VCR screen.**



- 1) Press **▲▼▶◀** to select "VCR."
- 2) Press ACTION to display.

**3** **Select TIME STAMP.**



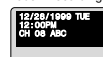
- 1) Press **▲▼** to select.
- 2) Press **▶** to set "ON" or "OFF."

- When "OFF" is selected, the program data is written on the tape, but will not be displayed.

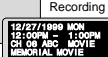
**4** **Return to normal screen.**  
Press ACTION twice.

### <Time Stamp Example >

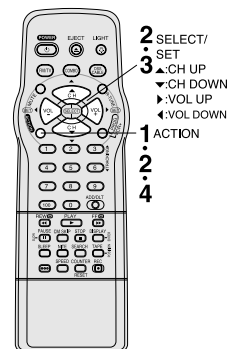
Normal / One Touch Recording



Timer Recording



When Clock is not set...



Model PV-C2540 remote is shown here.

# Special VCR Features (continued)

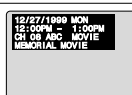
## Changing Time Stamp Data

You may change the time stamp data (Date, Time, Channel, Category, and Notes) as desired.

**1** **Display Time Stamp Data.**  
1) Insert cassette with record tab.  
2) Press PLAY.



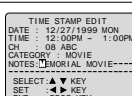
**2** **Display TIME STAMP EDIT.**



- 1) Press **PROG/VCR+** while the data is displayed in playback mode.



**3** **Change Time Stamp Data.**



- 1) Press **▲▼** to select.
- 2) Press **▶** or **◀** to enter and continue.

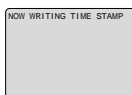
- Characters in NOTES will change in the following order.

→ A—B—C—...—Z—BLANK— —&—  
→ 9—...—2—1—0—/—!—

- 3) Repeat 1) and 2) as needed.

- To Make Corrections  
Press **◀▶** to move to the incorrect entry, then press **▲▼** to make the correction.

**4** **Write the new data.**

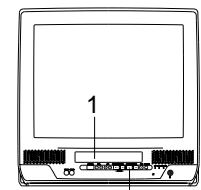


- 1) Press **PROG/VCR+**.

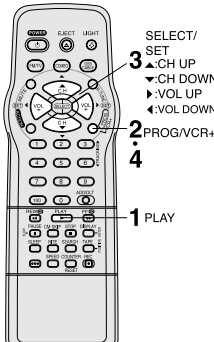


- After the data is written, the unit automatically goes into Stop mode.
- You cannot use POWER or REC button while "NOW WRITING TIME STAMP" is displayed.

Model PV-C2540 unit is shown here.



1 PLAY/REPEAT

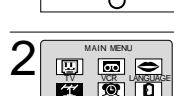


Model PV-C2540 remote is shown here.

## Weak Signal Display ON/OFF

When "ON" is selected, the picture is displayed even when a broadcast signal is weak or non-existent.

**1** **Display MAIN MENU.**  
Press ACTION\*.

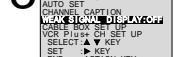


**2** **Display SET UP CH screen.**



- 1) Press **▲▼▶◀** to select "CH."
- 2) Press ACTION to display.

**3** **Select WEAK SIGNAL DISPLAY.**

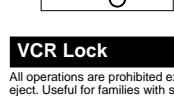


- 1) Press **▲▼** to select.
- 2) Press **▶** to set "ON" or "OFF."

### Notes

- "ON" = Picture is displayed regardless of signal condition, and may not always be clearly visible.
- "OFF" = Screen turns solid blue when signal is absent or weak.
- If unit is connected to equipment which has blue back feature, selecting "ON" will have no effect on the other equipment.

**4** **Return to the normal screen.**  
Press ACTION twice.



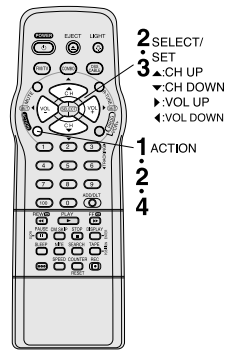
## VCR Lock

All operations are prohibited except Timer recording and tape eject. Useful for families with small children.

**To turn "ON."**  
In stop mode, hold down REC on the unit without a cassette inserted for 7 seconds.

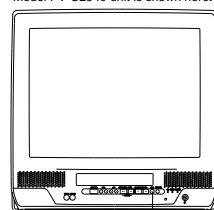
**To turn "OFF."**  
Repeat above with or without cassette.

- VCR Lock is canceled automatically after about 24 hours if clock is set.



Model PV-C2540 remote is shown here.

Model PV-C2540 unit is shown here.







REC

# FM Radio

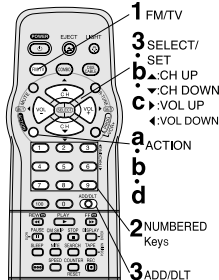
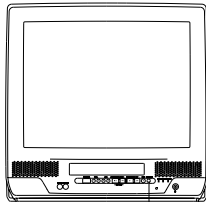
(PV-C2540/ PV-C2540-K/ PV-C2580/ PV-C2580-K)

## FM Radio Setup

- 
**Display FM radio mode.**  
Press FM/TV\* on the remote or TIMER/FM twice on the unit.
- 
**Select the FM number.**  
Press a **NUMBERED** key (1-9).
- 
**Set the radio station.**  
1) Press CH ▲▼ to select the desired radio station. (Each press changes frequency 200 kHz.)  
2) Press ADD/DLT to set.
- 
**Quick Station Scan**  
Hold down CH ▲ or ▼ for a few seconds, then release to scan for FM stations in your area.  
• To cancel, press CH ▲ or ▼ while in search mode.

**FM Radio is ...**  
This unit has an FM radio with built-in antenna, 9 station preset, and a band range of 87.5 ~ 108.1 MHz. You can even set the On-Timer to wake up to your favorite radio station.


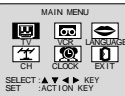
Model PV-C2540 unit is shown here.



Model PV-C2540 remote is shown here.

## FM ANTENNA Setup



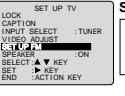
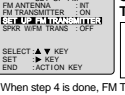
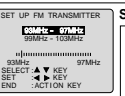

**Make sure FM tuning is done correctly**  
(See FM Radio Setup.)

- 
**Display MAIN MENU.**  
Press ACTION\*.
- 
**Display SET UP TV screen.**  
1) Press ▲▼◀▶ to select "TV."  
2) Press ACTION to display.

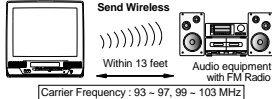
## FM Transmitter

**FM Transmitter is ...**  
a feature whereby this unit's sound signal can be heard on your FM Radio. First, tune your radio to a frequency (93 ~ 97, 99 ~ 103 MHz) that is not being broadcast on by a radio station. Then, set this unit to the same carrier frequency (see below.) Now, fine-tune this unit so the sound comes in clearly.




### FM Transmitter Carrier Frequency Setup

- 
**Display MAIN MENU.**  
Press ACTION\*.
- 
**Display SET UP TV screen.**  
1) Press ▲▼◀▶ to select "TV."  
2) Press ACTION to display.
- 
**Select SET UP FM.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.
- 
**Select SET UP FM TRANSMITTER.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.
- 
**Set the Carrier Frequency.**  
1) Press ▲▼ to select the desired frequency range (93-97 or 99-103MHz).  
2) Press ▶ to select the Carrier Frequency.  
3) Press ACTION to set. (Then screen in step 4 is redisplayed.)
- 
**End setup**  
Press ACTION three times.


<For Model PV-C2580 only>



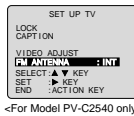
### FM Transmitter ON/OFF

- Do "FM Transmitter Carrier Frequency Setup" steps 1-3. (See left.)**
- 
**Select SET UP FM TRANSMITTER.**  
1) Press ▲▼ to select.  
2) Press ▶ to set "ON" or "OFF."
- 
**End setup**  
Press ACTION three times.
- 
**Select SET UP FM TRANSMITTER.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.

**Notes**  
• This operation has effect only when "FM TRANSMITTER : ON" (see above).  
• If "SPKR W/FM TRANS : OFF", the MUTE and VOLUME key will not function.

- 
**End setup**  
Press ACTION three times.
- Notes**  
• The Carrier Frequency shown by the selector bar is a guide only. Please listen to the sound and adjust accordingly.  
• The unit will transmit sound when unit power is on and "FM TRANSMITTER : ON" is selected.  
• When unit power is turned off, "FM TRANSMITTER" returns to "OFF" setting.  
• Please put your FM Radio within 13 feet of the unit.  
• Interference occurs when you select CATV channels 95, 96, or 97, while FM Transmitter is operating.  
• FM Transmitter will not work in FM Radio mode.  
• This is a Stereo Signal transmitted to the Stereo receiver of FM radio.  
• The Stereo receiver or the FM radio must have a FM Internal Antenna or this feature will not work.

C

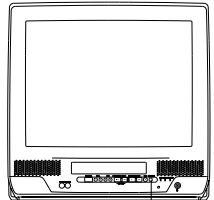


- For cable TV users → "INT"
- For antenna users → "EXT"

### Select FM ANTENNA.

- Press ▲▼ to select.
- Press ▶ to select "INT" (INTERNAL) or "EXT" (EXTERNAL) whichever sounds the best.

Model PV-C2540 unit is shown here.





A TIMER/FM

d



**End setup.**  
Press ACTION twice to exit.

## Using FM Radio

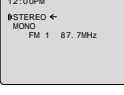
- 
**Display FM radio mode.**  
Press FM/TV on the remote or TIMER/FM twice on the unit.
- 
**Select the FM number.**  
Press a **NUMBERED** key (1-9) to select a preset station (see steps 2 and 3 on the previous section.)  
**To Cancel,** press FM/TV on the remote or TIMER/FM twice on the unit.

### Notes

Once stations are set, the selected station and current time are displayed when FM Radio mode is entered. To remove time, press DISPLAY. If DISPLAY is pressed, the unit status screen appears.

<For Model PV-C2580 only>

### To select Audio Mode for FM Radio

- 
**Select "STEREO" or "MONO."**  
Press AUDIO repeatedly in FM Radio mode.

### Notes

- FM radio cannot be recorded on a Video cassette.
- You may get better reception by repositioning the unit.
- You cannot select FM Radio mode during playback or record, or while a blue back screen (PROG, ACTION, MENU) is displayed.

## V-Chip Control Feature

### V-Chip Control Feature is...



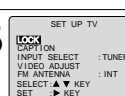

This unit has a built-in V-Chip Control which allows you to block unwanted TV usage based on US MOVIES and US TV PROGRAMS ratings.

### Process of V-Chip Control Feature

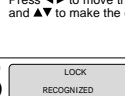
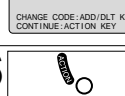
Enter Code → Setup → Blocking

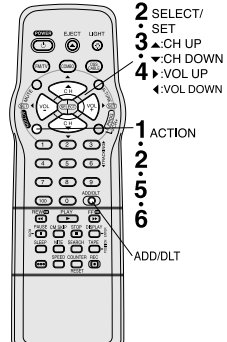
### Enter Secret Code

A 4-digit code must be entered to view a blocked program or change rating settings.

- 
**Display MAIN MENU.**  
Press ACTION\*.
- 
**Display SET UP TV screen.**  
1) Press ▲▼◀▶ to select "TV."  
2) Press ACTION to display.
- 
**Select Lock.**  
1) Press ▲▼ to select.  
2) Press ▶ to display.
- 
**Enter your secret code.**  
1) Press ▲▼ to select a number.  
2) Press (or ◀) to set.  
• Repeat step 4 until all 4-digits are entered.  
• Take care that you are not observed entering the secret code.

<For model PV-C2540 only>

- 
**Save 4-DIGIT CODE.**  
Press ACTION.
- 
**Display LOCK menu for rating screen.**  
Press ACTION and go to "US MOVIES Ratings" or "US TV PROGRAMS Ratings" OR  
to exit, press ACTION four times.



Model PV-C2540 remote is shown here.

### Changing your secret code

• You will need your current code.  
Do steps 1-4. In step 5, press ADD/DLT to clear current code. Repeat steps 4 and 5 to enter new code.

### Notes

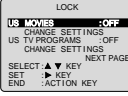
- DO NOT forget your secret code.
- Once ratings are set, restricted tapes or programs cannot be accessed unless the secret code is entered.

# V-Chip Control Feature (continued)


## Setup US MOVIES Ratings

If LOCK menu is not displayed, do "Enter Secret Code" steps.

1



Select US MOVIES STATUS.



1) Press **▲▼** to select.

2) Press **▶** to set "ON" or "OFF."


If you select US MOVIES STATUS:

- "ON" → V-Chip Control is activated.
- "OFF" → V-Chip Control is deactivated.


### Notes

- "NEXT PAGE" is setup to CANADIAN V-Chip setting mode. "NEXT PAGE" cannot be used in the U.S.

2



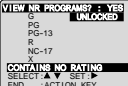
Select CHANGE SETTINGS.




1) Press **▲▼** to select.

2) Press **▶** to display.

3



Select VIEW NR PROGRAMS?



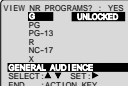
1) Press **▲▼** to select.

2) Press **▶** to set "YES" or "NO."


### NR (Not Rated) PROGRAMS

Some movies, such as old movies or foreign movies usually have no ratings.

4




Select ratings to be blocked. (See right.)



1) Press **▲▼** to select.

2) Press **▶** to set.

5

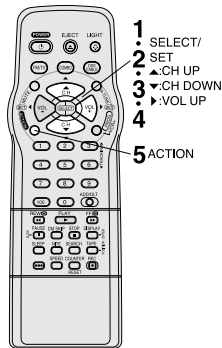


Redisplay LOCK menu to continue setup.

Press ACTION and go to "US TV PROGRAMS Ratings" OR to exit, press ACTION four times.

## Process of V-Chip Control Feature

Enter Code ⇨ Setup ⇨ Blocking



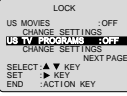
Model PV-C2540 remote is shown here.

US MOVIES RATINGS	
G	GENERAL AUDIENCE: All ages admitted.
PG	PARENTAL GUIDANCE: Some material may not be suitable for children.
PG-13	PARENTS CAUTIONED: Some material may be inappropriate for children under 13.
R	RESTRICTED: Children under 17 must be accompanied by a parent or adult.
NC-17	OVER AGE 17 ONLY: No one 17 and under admitted.
X	ADULTS ONLY:


## Setup US TV PROGRAMS Ratings

If LOCK menu is not displayed, do "Enter Secret Code" steps.

1



Select US TV PROGRAMS STATUS.



1) Press **▲▼** to select.

2) Press **▶** to set "ON" or "OFF."

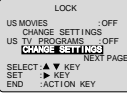
If you select US TV PROGRAMS STATUS:

- "ON" → V-Chip Control is activated.
- "OFF" → V-Chip Control is deactivated.


### Notes

- "NEXT PAGE" is setup to CANADIAN V-Chip setting mode. "NEXT PAGE" cannot be used in the U.S.

2




Select CHANGE SETTINGS.




1) Press **▲▼** to select.

2) Press **▶** to display.

3



Select VIEW NR PROGRAMS?



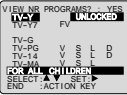
1) Press **▲▼** to select.

2) Press **▶** to set "YES" or "NO."


### NR (Not Rated) PROGRAMS

Some TV shows, such as news, sports, weather, bulletins, emergency information usually have no ratings.

4



Select ratings to be blocked.



1) Repeatedly Press **▲▼** to select.

2) Press **▶** to set.

- Ratings which are highlighted in Green will be blocked, when not highlighted (white letters), these will not be blocked.

### Note

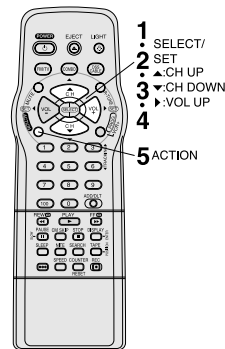
You may select from standard TV ratings (chart 1), or customize to a specific content rating (chart 2.)

5



Exit this mode.

Press ACTION four times.



Model PV-C2540 remote is shown here.

# V-Chip Control Feature (continued)

## US TV PROGRAMS RATINGS: Chart 1

TV-Y	FOR ALL CHILDREN: Content specifically geared to young viewers ages 2-6.
TV-Y7	FOR AGE 7 AND OLDER: May contain mild physical or comedic violence which may frighten children under 7.
TV-G	GENERAL AUDIENCE: Contains little or no violence, strong language, or sexual dialogue or situations.
TV-PG	PARENTAL GUIDANCE: May contain infrequent coarse language, limited violence, some suggestive sexual dialogue and situations.
TV-14	PARENTS CAUTIONED: May contain sophisticated themes, sexual situations, strong language, and more intense violence.
TV-MA	MATURE AUDIENCE: May contain mature themes, profane language, graphic violence, and sexual situations.

## US TV PROGRAMS RATINGS: Chart 2

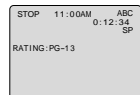
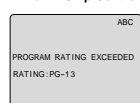
FV	Fantasy Violence
V	Violence
S	Sexual Situations
L	Adult Language
D	Sexually Suggestive Dialogue

## Process of V-Chip Control Feature

Enter Code ⇨ Setup ⇨ Blocking

### Blocking Message

#### <When V-Chip Control is activated>



• If V-Chip Control is activated, and a program or movie exceeds the ratings you have set, a message will appear on a black background and sound is muted.

• If DISPLAY is pressed, even when V-Chip control is deactivated, rating is displayed on-screen.

#### To Continue Viewing a Blocked Program


After entering your 4-digit secret code, go to step 1 on both "Setup US MOVIES Ratings" section and "Setup US TV PROGRAMS Ratings" section and select "OFF" to deactivate V-Chip Control.

- The US MOVIES and US TV PROGRAMS ratings you set will be retained.

# On-Screen Display (OSD)

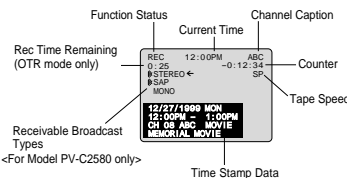
## VCR Status & Clock Display

DISPLAY



To display or remove the overlay.

Press DISPLAY.

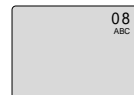


## Blue Screen Display


Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the "Weak Signal Display ON/OFF" set to "OFF," the TV screen will turn solid blue.

## Channel & Function Display

When a function button is pressed (PLAY, FF, etc.) or you change channels, the unit mode or channel number will be displayed. (Some station names may also appear if Channel Caption is set.)




1. Important safety notice

Components identified by the sign  have special characteristics important for safety. When replacing any of these components. Use only the specified parts.
2. Do not use the part number shown on this drawing for ordering.


The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.
3. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. Parts different in shape or size may be used.


However, only interchangeable parts will be supplied as service replacement parts.
5. Test point information




:Test point with a jumper wire across a hole in P.C.B.



:Test point with a component lead on the foil side.



:Test point with no test pin.



:Test point with a test pin.

Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes

The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

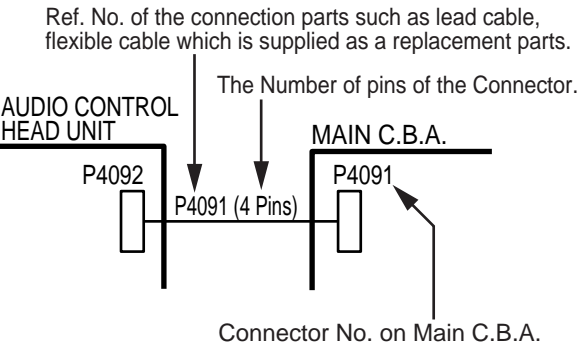
Example:

(6.2V).....Zener Voltage
2. How to identify Connectors

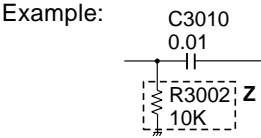
Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.

Use the interconnection schematic diagram to find the connection between associated connectors.

Example:  
The connections between C.B.A.s are shown below.



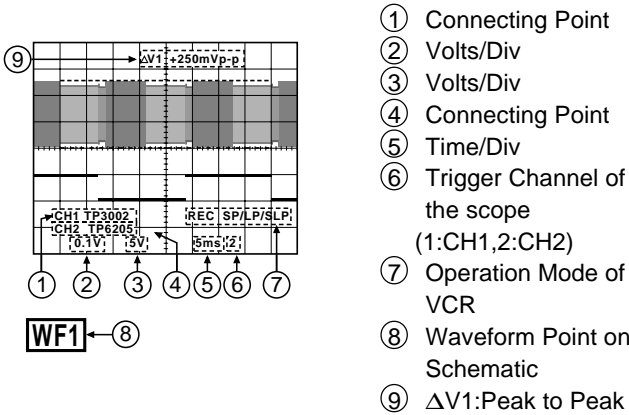
3. Parts enclosed in dashed lines marked "Z" are not used in any models included in this service manual.



4. The part number shown on this drawing is only main part number,
- except for safety parts. Be sure to make your orders of replacement parts according to the parts list.

Signal Waveform Note

How to read Signal Waveform



Voltage Chart Note

- Voltage Measurement
- a. Color bar signal in SP mode.

b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models. For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

- NOTE:
- Circuit Board Layout includes components which are not used.

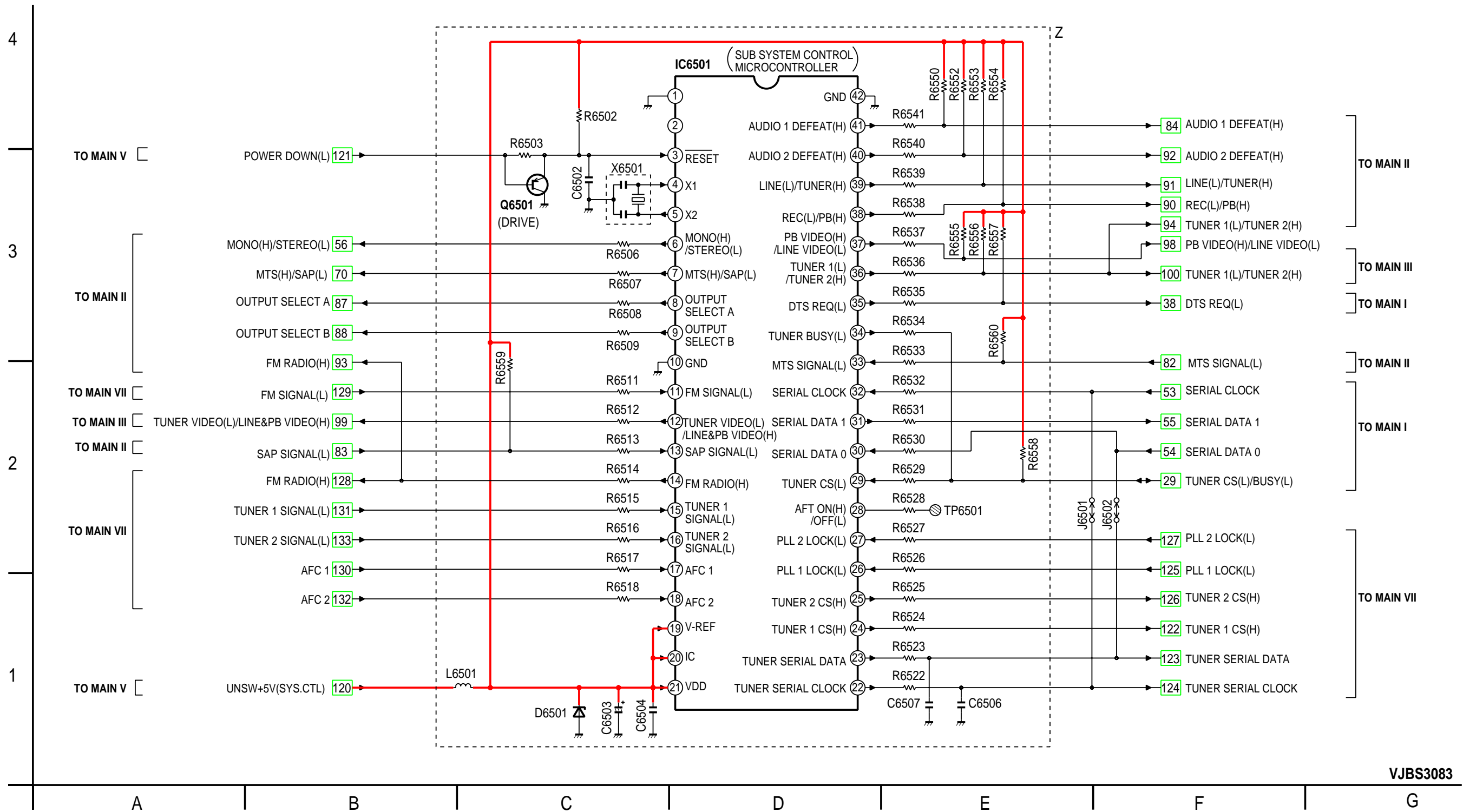
Comparison chart of models & marks

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z

Note : Refer to item 3 of Schematic Diagram Notes for mark "Z".

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

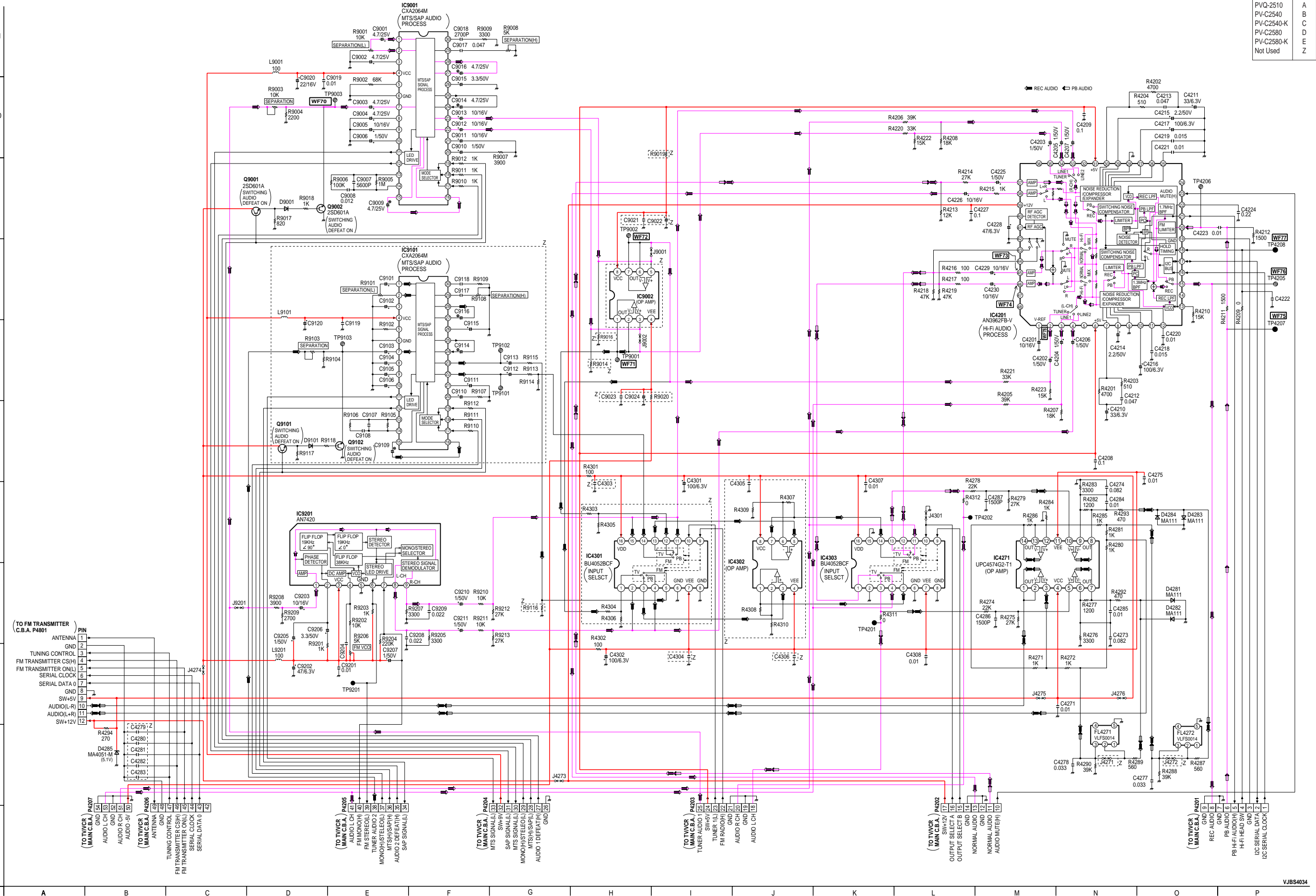
COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



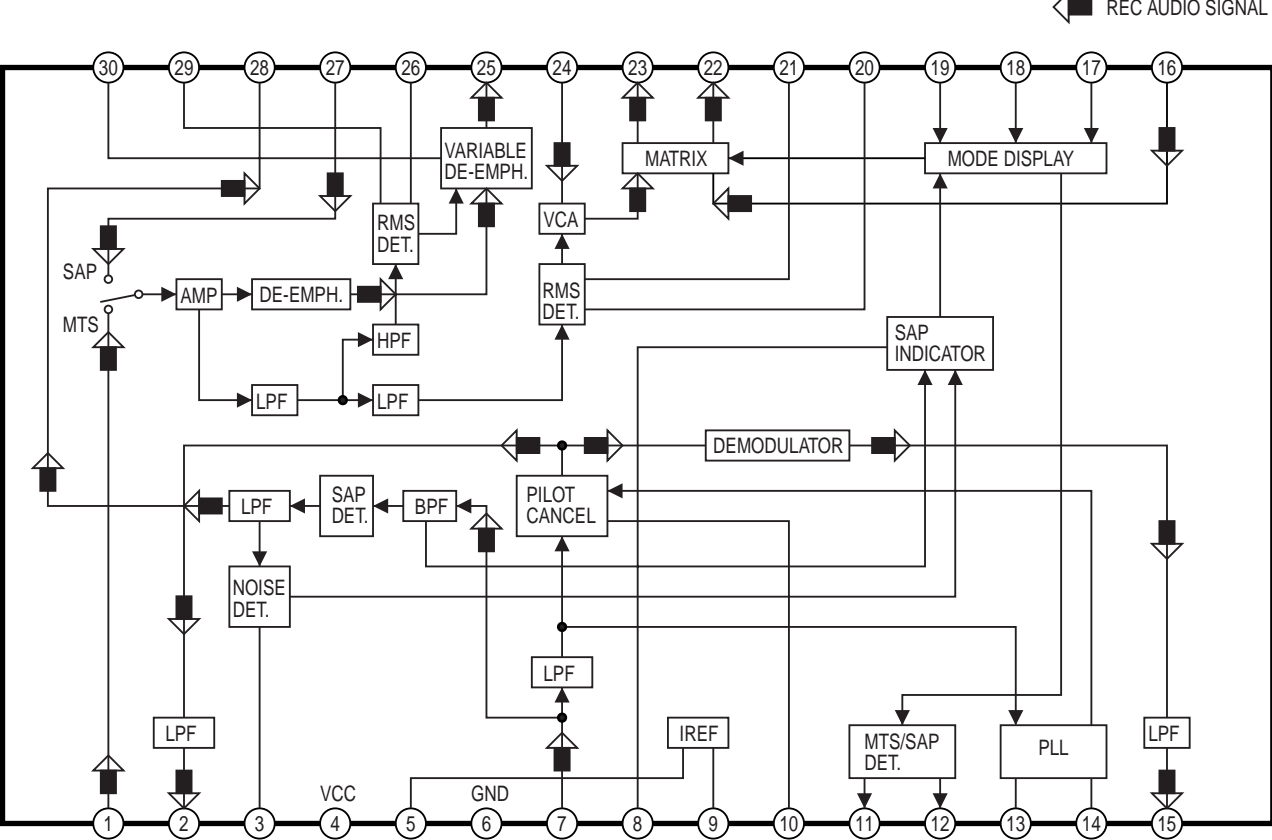


NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

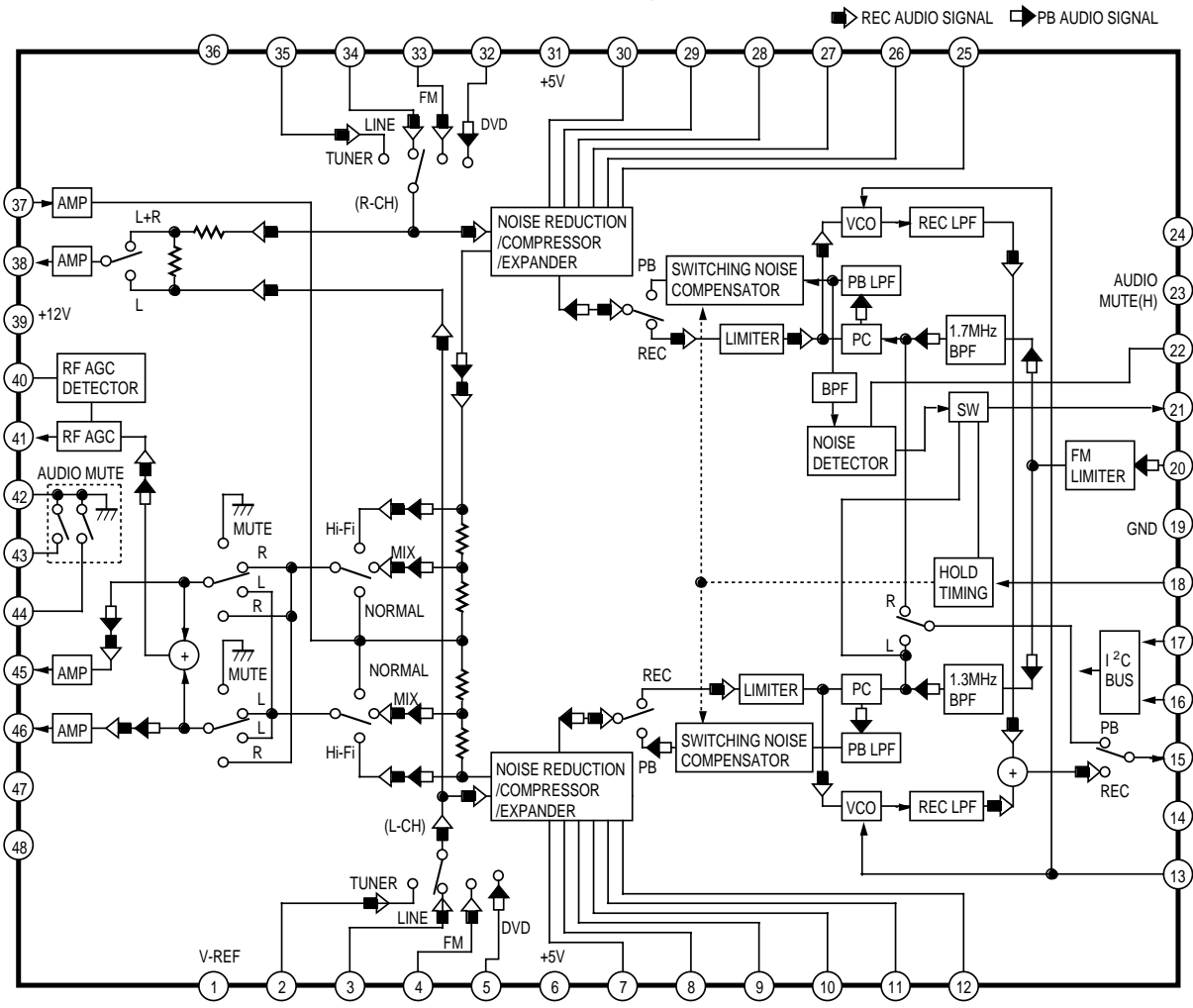
COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z




IC9001 MTS/SAP AUDIO PROCESS IC-DETAIL BLOCK DIAGRAM, CXA2064M

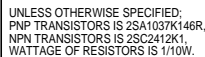


IC4201 Hi-Fi AUDIO PROCESS IC-BLOCK DIAGRAM, AN3962FB-V



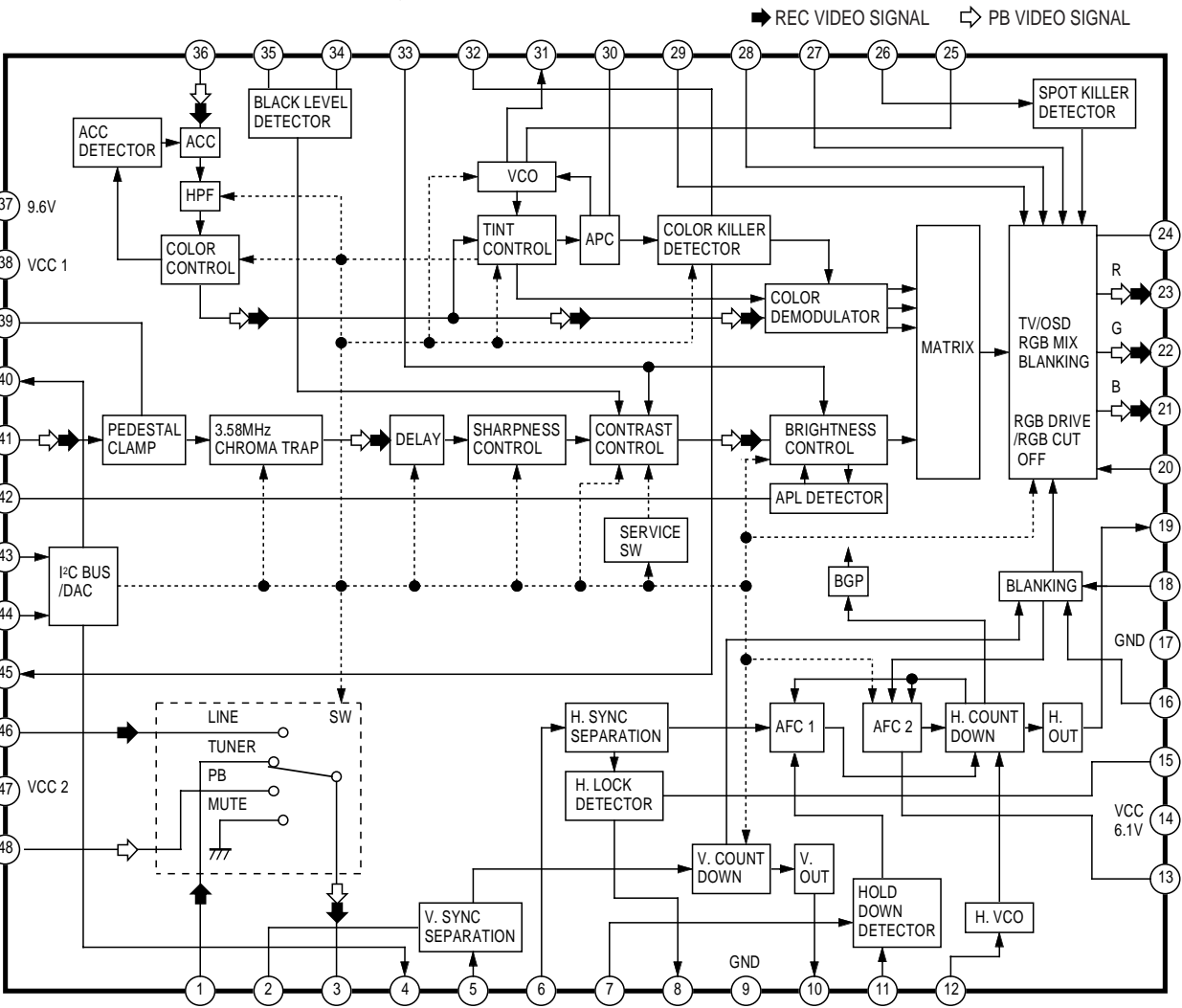
**IMPORTANT SAFETY NOTICE:**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

VJBS3084






IC5301 LUMINANCE/CHROMINANCE PROCESS  
IC-DETAIL BLOCK DIAGRAM, AN5367FB



THE FOLLOWING CONTROL FUNCTIONS ARE ADJUSTED BY USING I2C BUS.

- SUB COLOR
- SUB TINT
- SUB BRIGHT
- R CUT-OFF
- G CUT-OFF
- B CUT-OFF
- G DRIVE
- B DRIVE
- SUB CONTRAST
- H CENTER
- V SIZE
- V POSITION

**IMPORTANT SAFETY NOTICE:**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

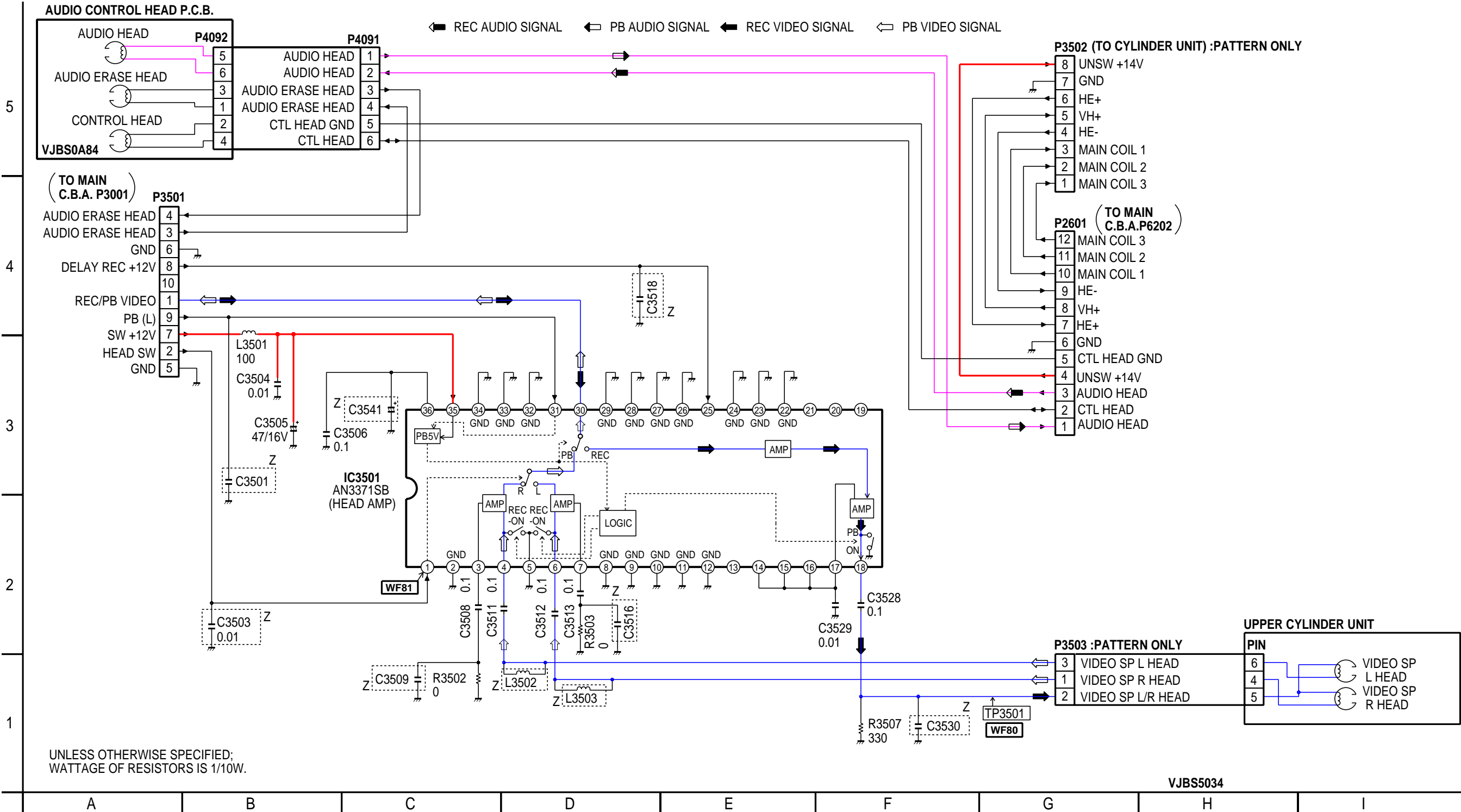
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



LRP63019

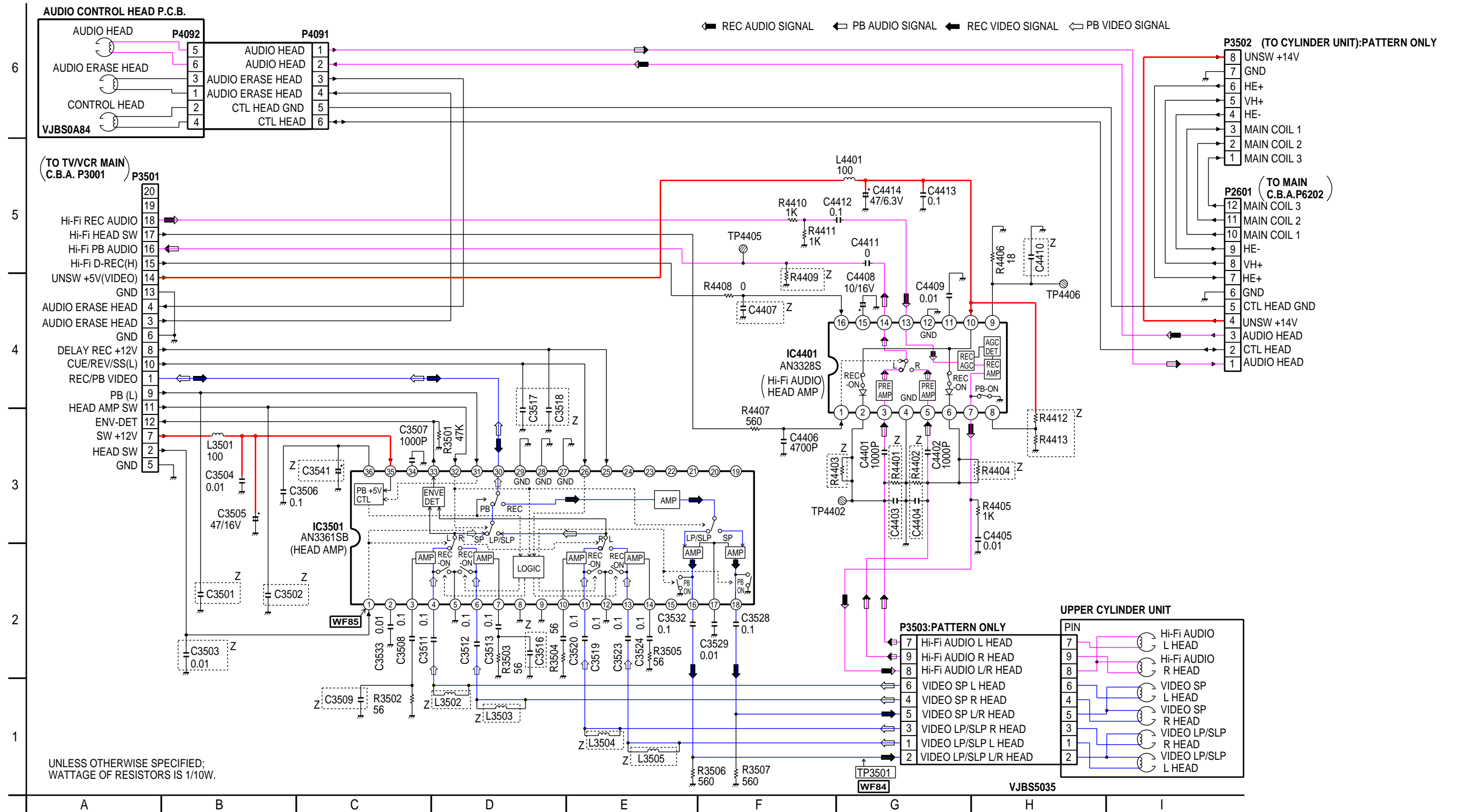
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.


COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z





MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z

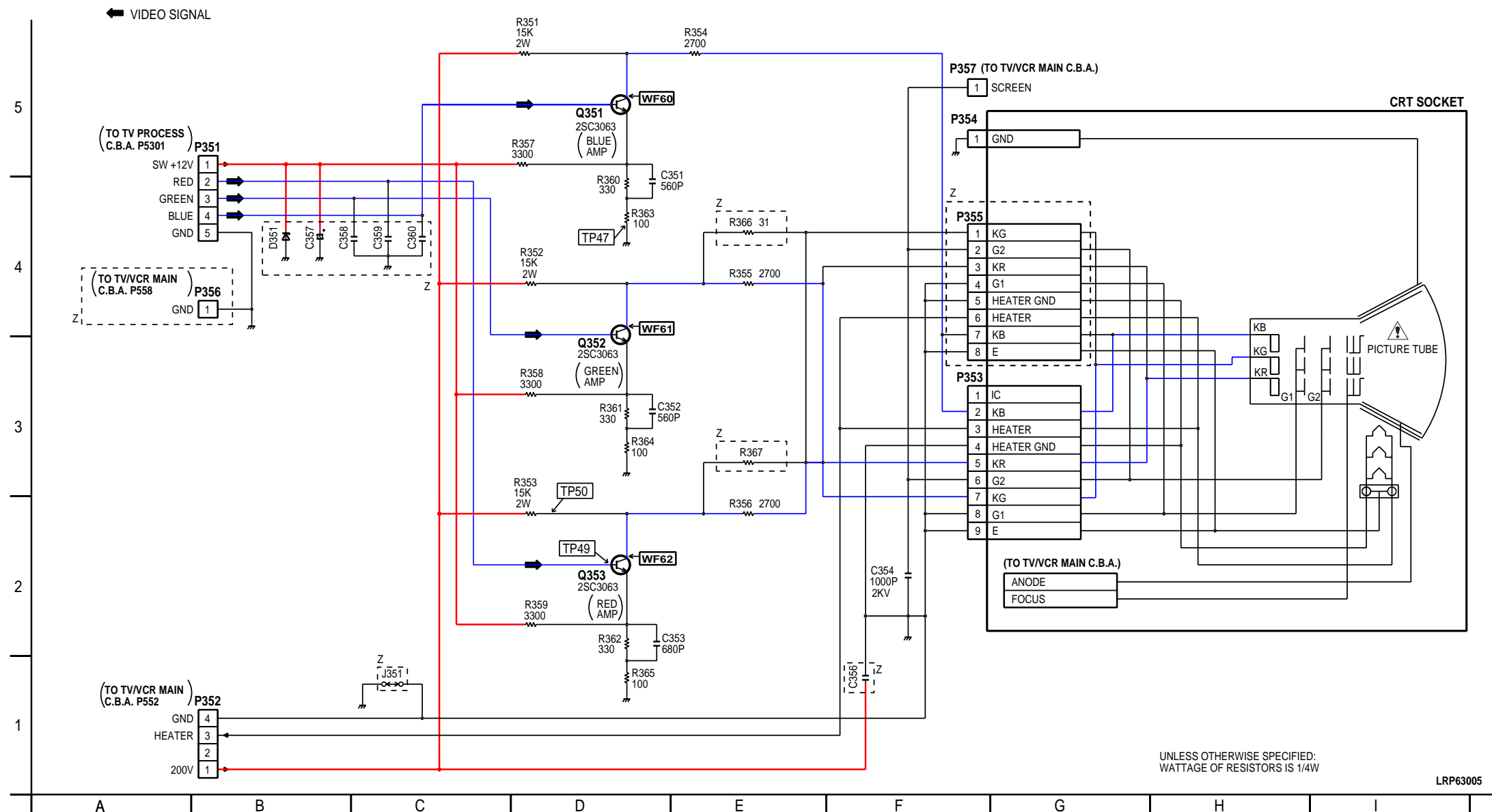


IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

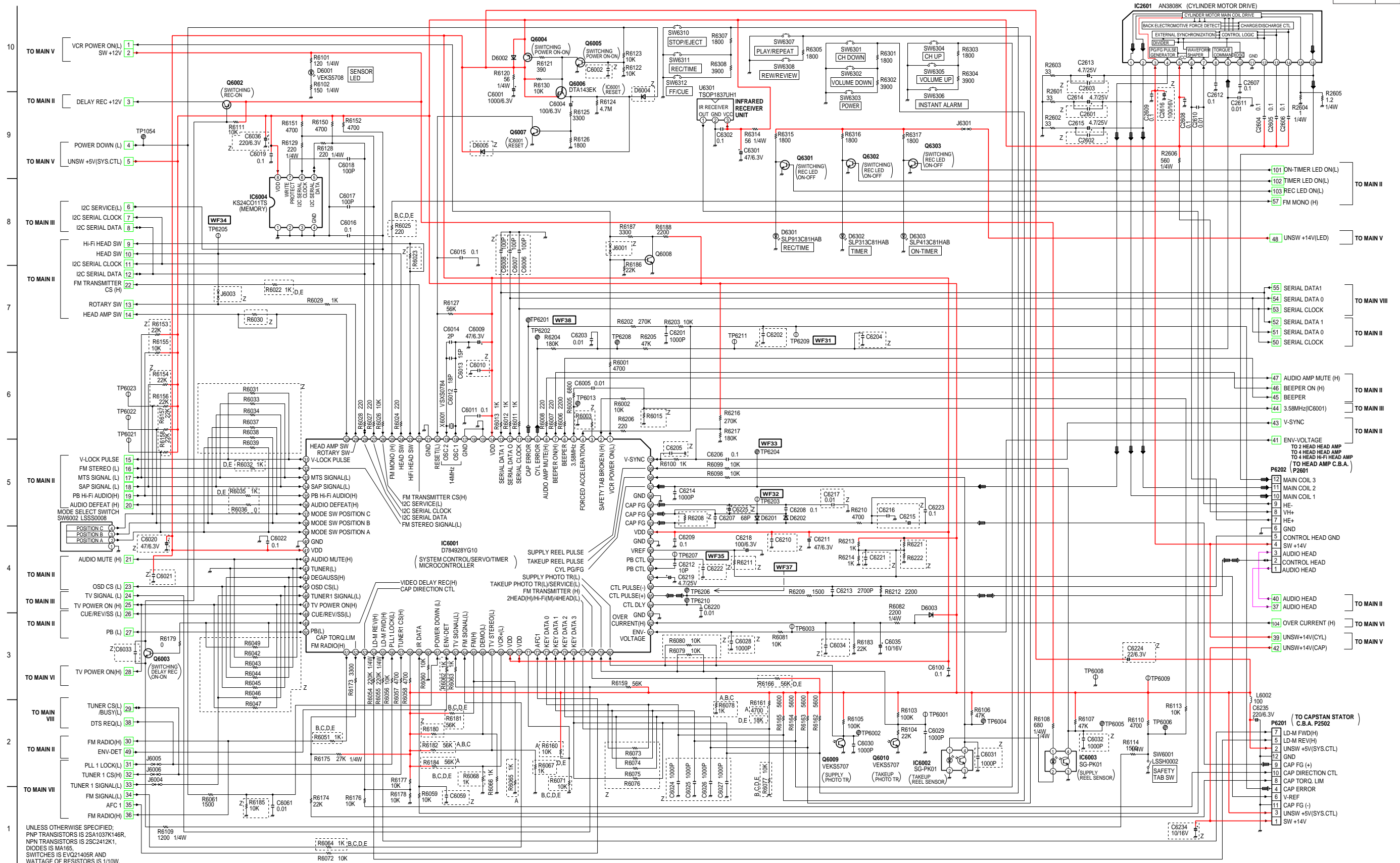
COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z





MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



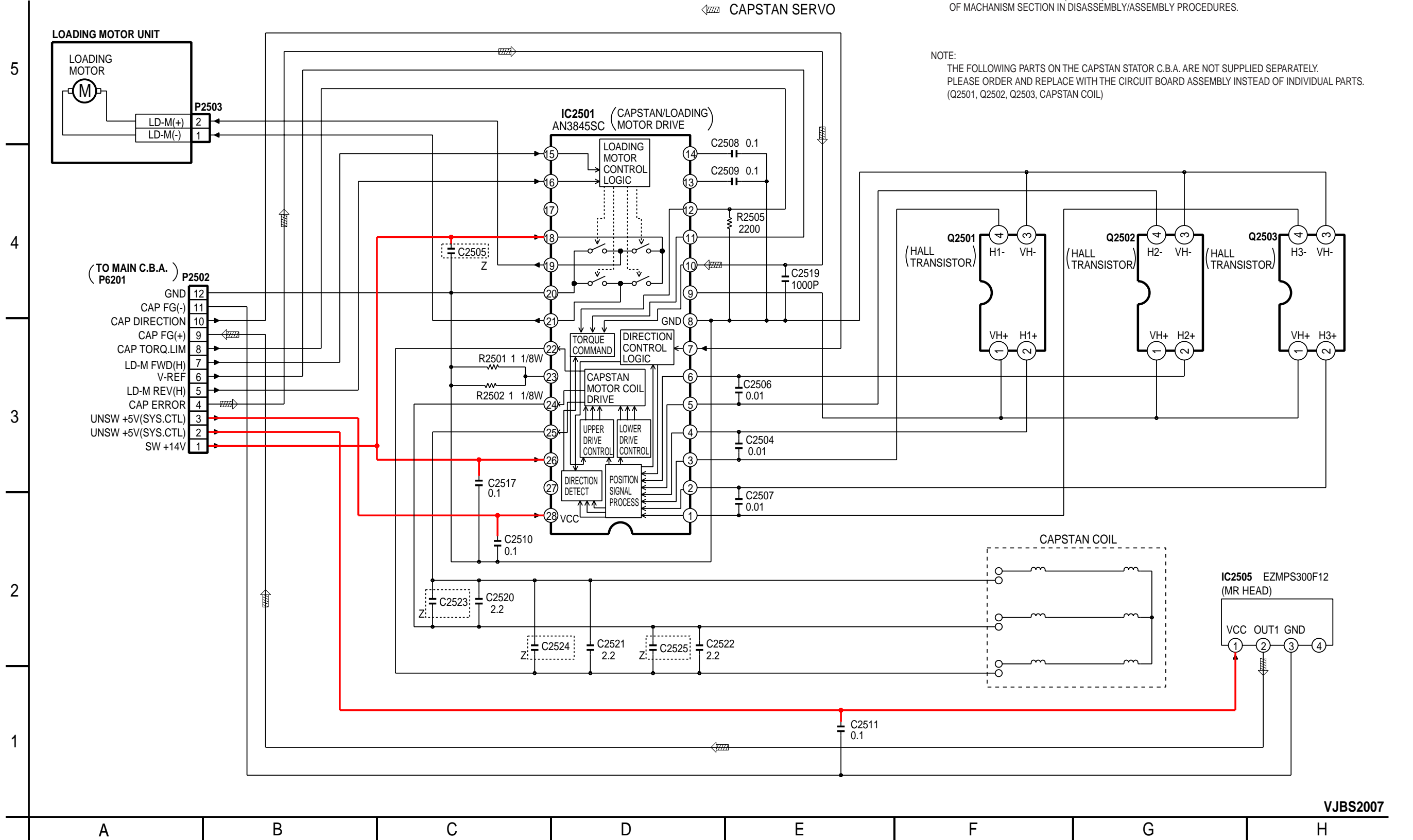
VJBS3083

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z


NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
WHEN INSTALLING THE IC2501(AN3845SC) OR CAPSTAN STATOR C.B.A., BE SURE  
TO APPLY SILICON GREASE(VFK1301). REFER TO "CAPSTAN STATOR C.B.A."  
OF MECHANISM SECTION IN DISASSEMBLY/ASSEMBLY PROCEDURES.

NOTE:  
THE FOLLOWING PARTS ON THE CAPSTAN STATOR C.B.A. ARE NOT SUPPLIED SEPARATELY.  
PLEASE ORDER AND REPLACE WITH THE CIRCUIT BOARD ASSEMBLY INSTEAD OF INDIVIDUAL PARTS.  
(Q2501, Q2502, Q2503, CAPSTAN COIL)

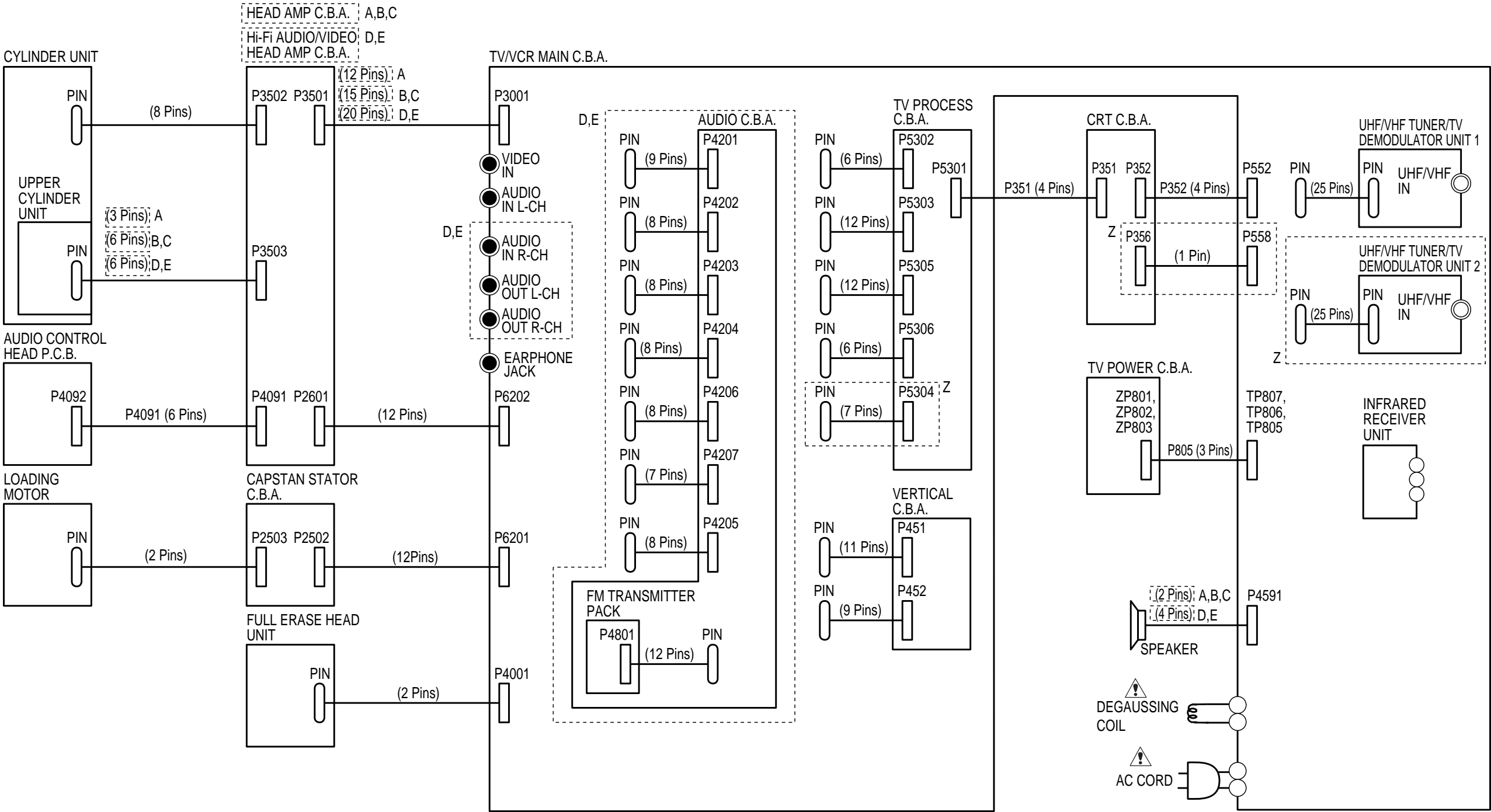




IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

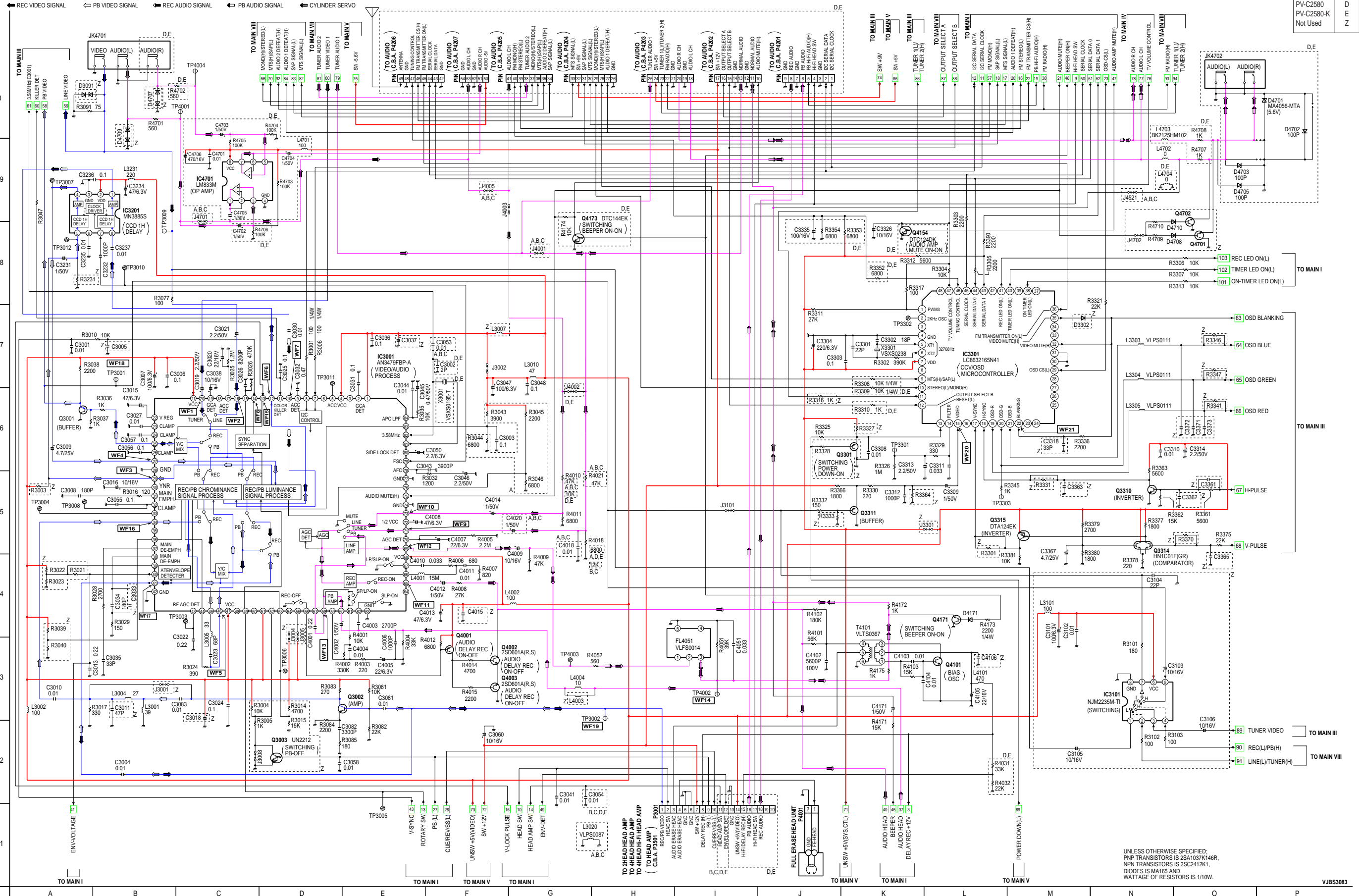
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



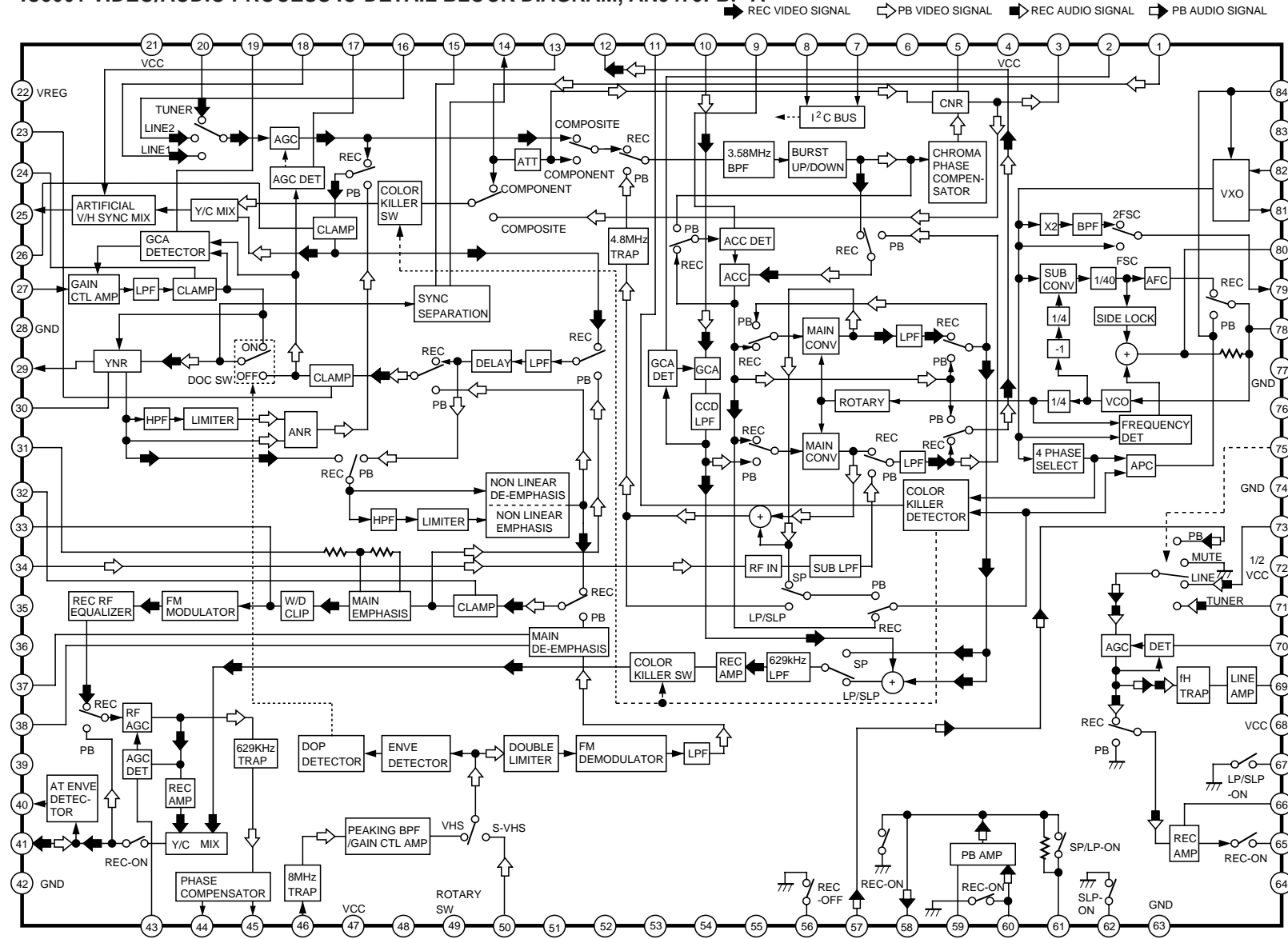
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z

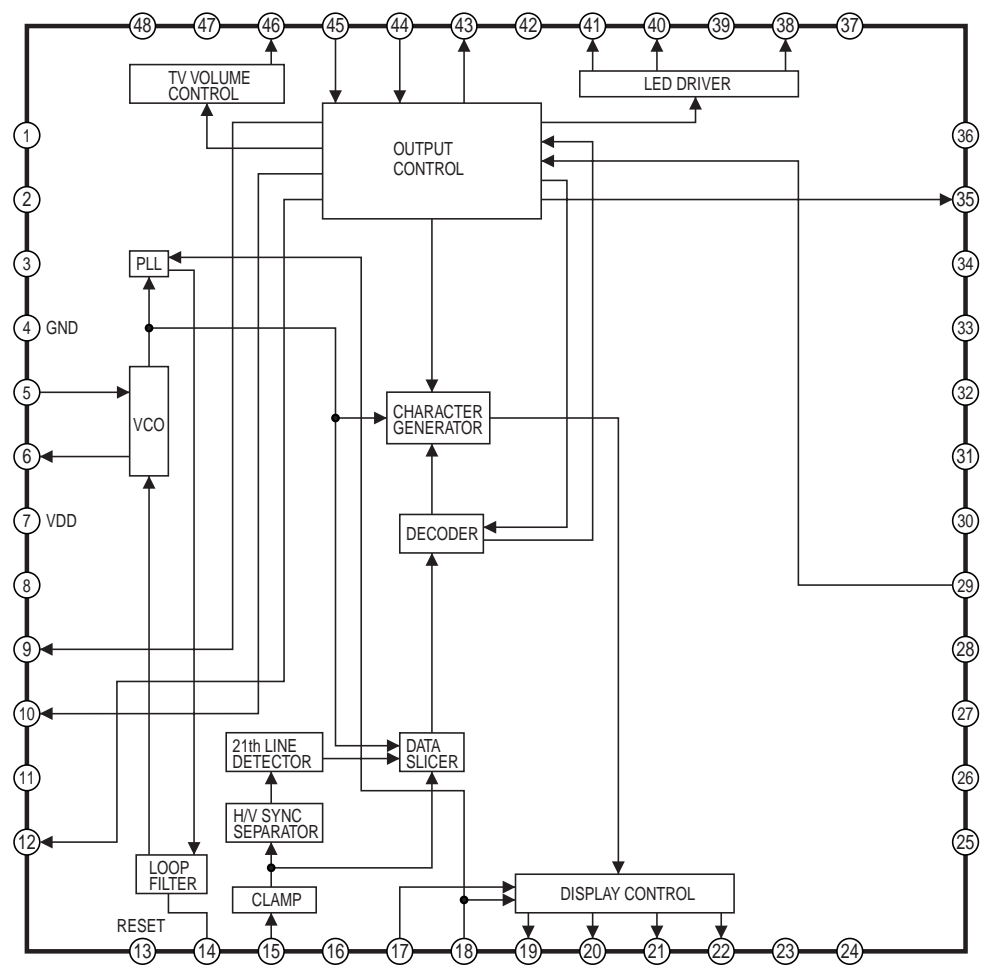


UNLESS OTHERWISE SPECIFIED:  
PNP TRANSISTORS IS 2SA1037K146R,  
NPN TRANSISTORS IS 2SC2412K1,  
DIODES IS MA165 AND  
WATTAGE OF RESISTORS IS 1/10W.

### IC3001 VIDEO/AUDIO PROCESS IC-DETAIL BLOCK DIAGRAM, AN3479FBP-A

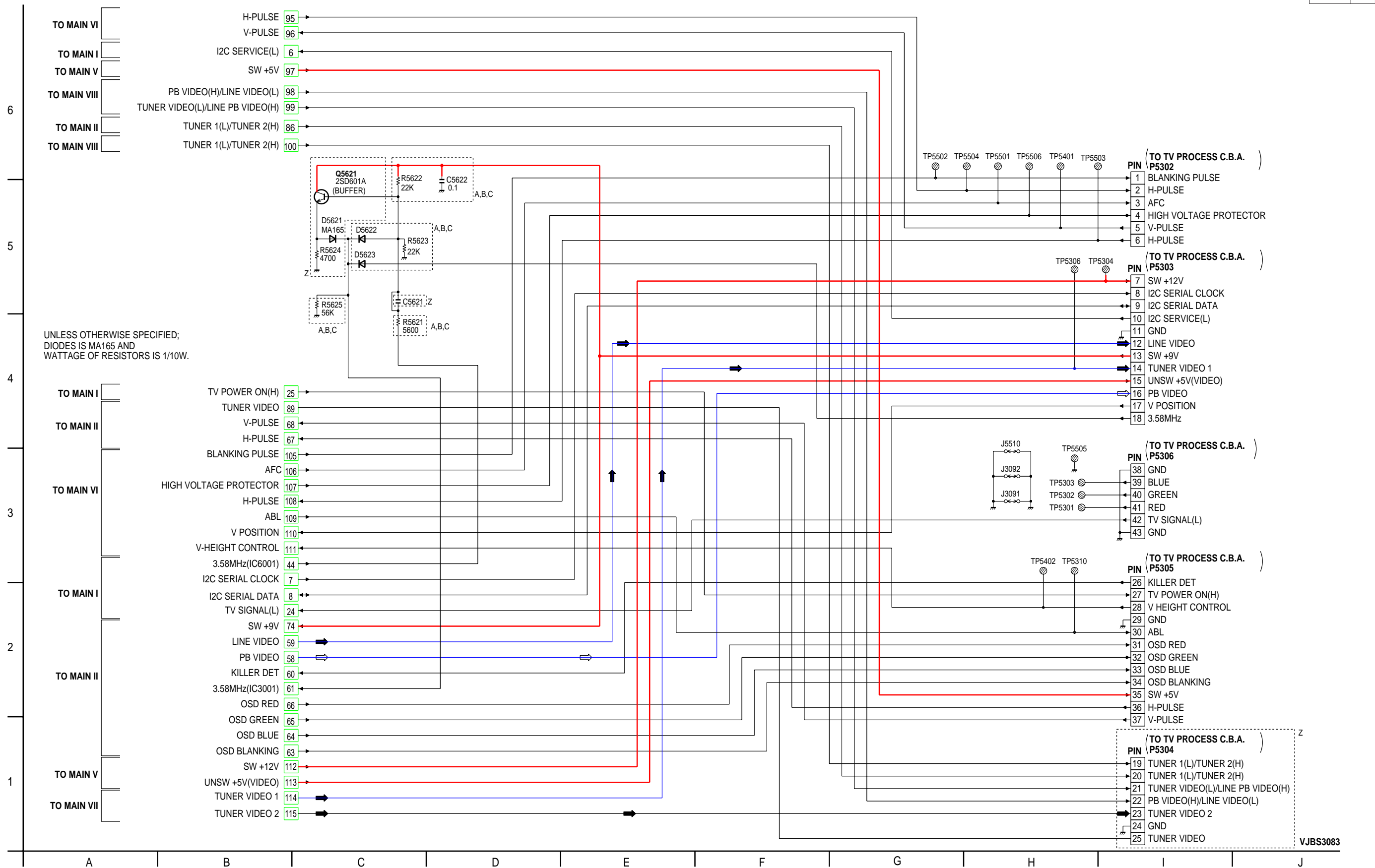



### IC3301 8BIT MICROCONTROLLER IC-DETAIL BLOCK DIAGRAM, LC8632165N41

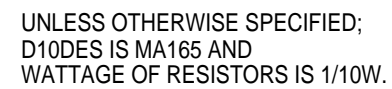


NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



**IMPORTANT SAFETY NOTICE:**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

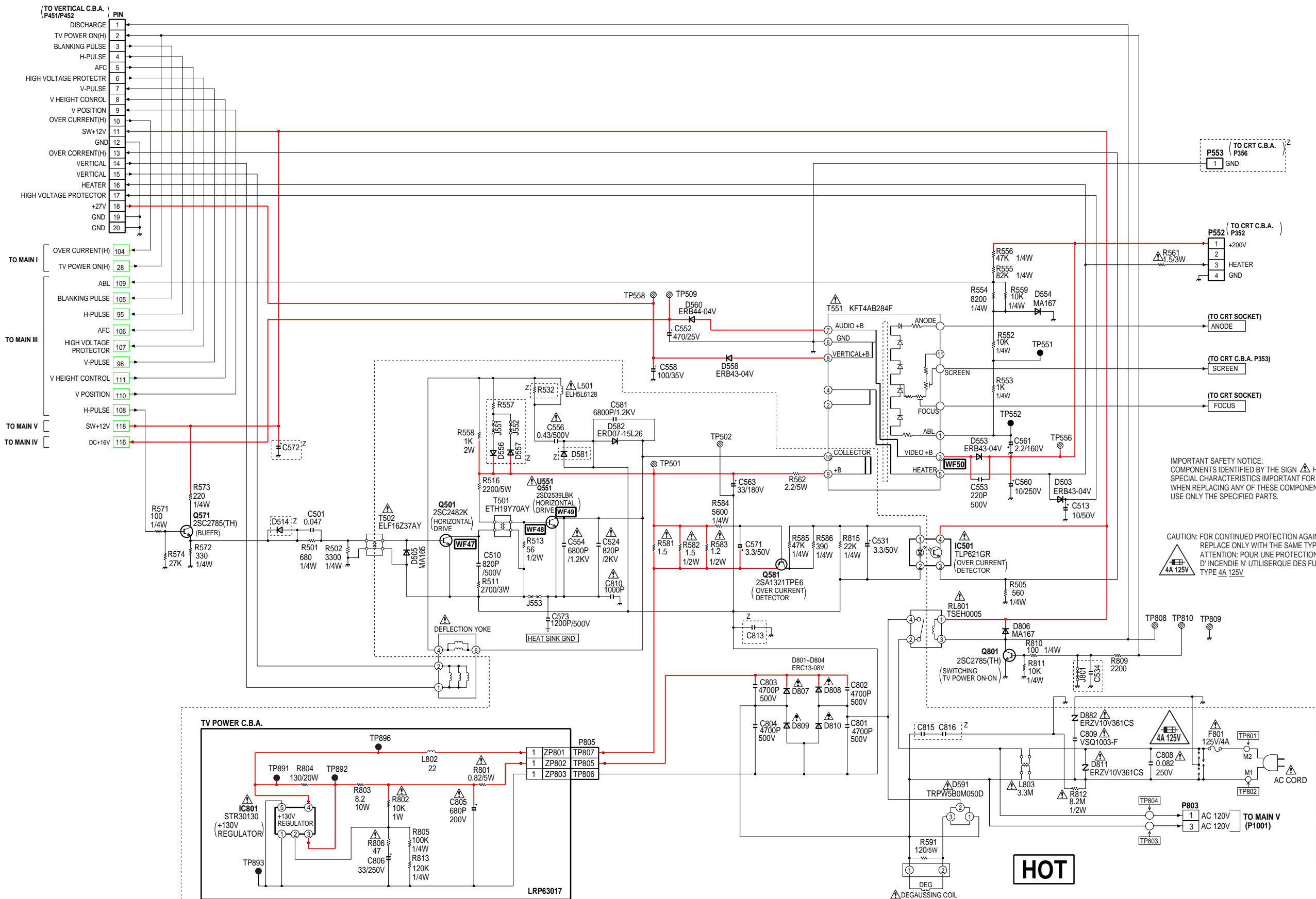






NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z



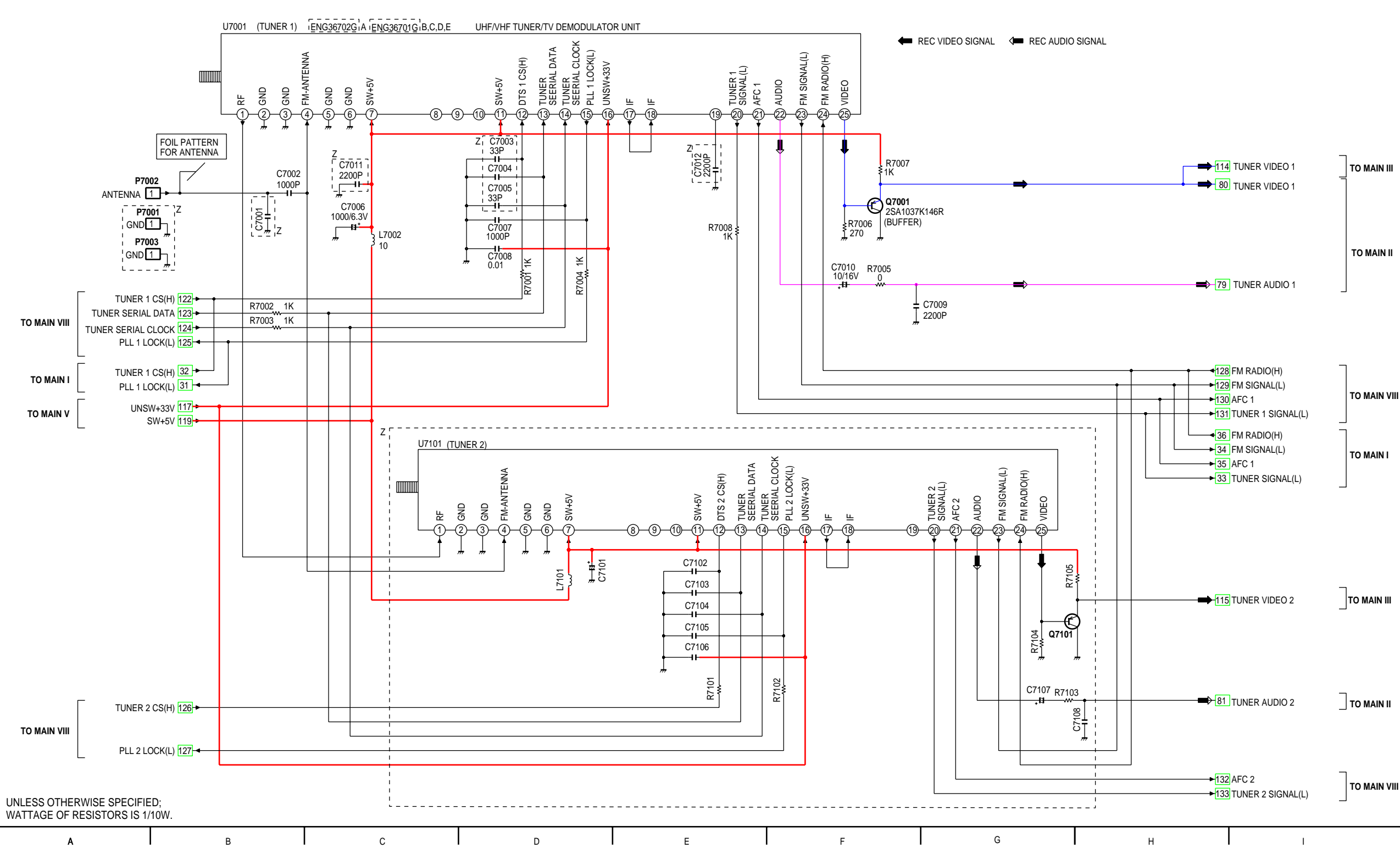
UNLESS OTHERWISE SPECIFIED:  
WATTAGE OF RESISTORS IS 1/10W.

**HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.**

VJBS3083

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E
Not Used	Z





NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

## MAIN C.B.A. (POWER SUPPLY/VIDEO/AUDIO SECTION)

MODE PIN NO.	REC	PLAY
IC501		
1	60.9	60.9
2	60.7	60.7
3	0	0
4	12.0	12.0
IC1001		
1	5.2	5.2
2	4.4	4.4
3	0.6	0.6
4	2.1	2.1
IC3001		
1	5.1	5.1
2	3.4	3.4
3	2.1	2.1
4	5.1	5.1
5	2.7	2.7
6	1.9	1.9
7	5.1	5.1
8	5.1	5.1
9	2.2	2.2
10	2.8	2.8
11	0.4	0.9
12	2.8	2.8
13	0	0
14	0.5	0.5
15	1.0	1.1
16	3.1	3.6
17	2.3	1.7
18	2.6	2.6
19	2.6	2.6
20	3.1	3.5
21	5.0	4.9
22	2.0	2.0
23	2.4	2.4
24	2.5	2.4
25	2.0	2.0
26	2.5	2.4
27	2.0	2.0
28	0	0
29	1.9	1.8
30	1.8	1.5
31	2.0	1.9
32	2.3	2.4
33	2.0	2.3
34	2.8	2.7
35	2.0	1.9
36	2.5	2.5
37	0.1	1.5
38	4.5	2.3
39	2.2	1.9
40	3.4	3.0
41	2.8	3.4
42	0	0
43	3.3	3.3
44	2.6	2.6

MODE PIN NO.	REC	PLAY
45	2.6	2.6
46	2.6	2.6
47	5.0	4.9
48	1.2	1.2
49	2.6	2.6
50	3.8	3.1
51	5.0	4.9
52	2.5	2.5
53	2.5	2.5
54	1.9	2.1
55	2.1	2.1
56	5.2	4.4
57	2.6	2.6
58	2.6	2.6
59	2.6	2.6
60	2.6	2.6
61	2.6	2.6
62	0	0
63	0	0
64	1.6	1.8
65	2.6	2.6
66	2.6	2.6
67	2.6	2.7
68	5.2	5.2
69	2.6	2.6
70	0	0
71	2.6	2.6
72	2.6	2.6
73	2.7	2.6
74	0	0
75	0	0
76	3.4	3.3
77	0	0
78	2.2	2.2
79	3.0	3.0
80	2.2	2.2
81	2.6	2.7
82	2.8	2.8
83	2.5	2.5
84	3.8	2.4
IC3201		
1	2.5	2.5
2	5.1	5.1
3	0	0
4	2.5	2.5
5	3.0	3.0
6	-2.9	-2.9
7	2.3	2.3
8	2.9	3.0
IC3301		
1	2.4	2.4
2	2.6	2.7
3	5.2	5.2
4	0	0
5	2.2	1.7

MODE PIN NO.	REC	PLAY
6	2.3	2.3
7	5.2	5.2
8	0	0
9	0.1	0.1
10	0.1	0.1
11	0.1	0.1
12	0	0.1
13	5.2	5.2
14	3.6	3.6
15	2.8	2.8
16	0	0
17	5.0	5.0
18	4.2	4.3
19	0.1	0.1
20	0	0.1
21	0	0.1
22	0	0.1
23	0	0
24	0	0
25	0	0.1
26	0	0.1
27	0	0.1
28	0	0.1
29	4.0	4.1
30	0	0
31	0	0
32	0	0.1
33	0	0
34	0	0
35	0	0
36	5.2	5.2
37	0	0
38	5.2	5.2
39	5.2	5.2
40	---	---
41	0.4	5.2
42	0	0
43	4.8	4.8
44	4.3	4.4
45	4.9	4.9
46	3.2	3.2
47	2.0	2.0
48	0	0
IC4501		
1	6.4	6.4
2	0	0
3	6.4	6.4
4	0	0
5	2.4	2.4
6	6.7	6.7
7	6.7	6.7
8	0	0
9	6.8	6.8
10	15.8	15.8

MODE PIN NO.	REC	PLAY
IC4511		
1	6.4	6.4
2	0	0
3	6.4	6.4
4	0	0
5	2.4	2.4
6	6.7	6.7
7	6.7	6.7
8	0	0
9	6.8	6.8
10	15.8	15.8
IC4701		
1	5.8	5.8
2	5.8	5.8
3	5.8	5.8
4	0	0
5	5.8	5.8
6	5.8	5.8
7	5.8	5.8
8	11.6	11.6
Q501		
E	0	0
C	71.2	71.2
B	0.4	0.4
Q551		
E	0	0
C	0	0
B	60.9	60.9
Q571		
E	1.4	1.4
C	10.5	10.5
B	1.8	1.8
Q581		
E	1152	1152
C	0	0
B	1148	1148
Q801		
E	0	0
C	0.2	0.2
B	0.8	0.8
Q1001		
E	0	0
C	130.0	130.0
B	0.4	0.4
Q1002		
E	0.4	0.4
C	0.4	0.4
B	0.6	0.6
Q1003		
E	-0.6	-0.6
C	4.1	4.1
B	-0.1	-0.1

MODE PIN NO.	REC	PLAY
Q1004		
E	4.4	4.4
C	0	0
B	4.1	4.1
Q1005		
E	5.2	5.2
C	5.2	5.2
B	4.6	4.6
Q1051		
E	12.0	12.0
C	14.2	14.2
B	12.6	12.6
Q1052		
E	0	0
C	12.6	12.6
B	0.6	0.6
Q1053		
E	5.1	5.1
C	5.2	5.2
B	5.8	5.8
Q1057		
E	12.0	12.0
C	12.0	12.0
B	11.5	11.5
Q1058		
E	-31.6	-31.6
C	-31.5	-31.5
B	-30.9	-30.9
Q3001		
E	1.6	1.6
C	0	0
B	1.0	1.0
Q3002		
E	2.8	2.8
C	4.6	4.6
B	3.4	3.4
Q3310		
E	0	0
C	4.2	4.2
B	-0.3	-0.3
Q3311		
E	0	2.4
C	0	0
B	1.7	1.7
Q3314		
E1	1.5	1.5
C1	5.1	5.1
B1	2.1	2.1
E2	1.5	1.5
C2	1.7	1.7
B2	2.1	2.1
Q3315		
E	5.2	5.2
C	5.0	5.0
B	1.7	1.7

MODE PIN NO.	REC	PLAY
Q4001		
E	5.1	5.1
C	-19.6	5.1
B	5.1	4.4
Q4002		
E	-11.3	0
C	0	0
B	-19.8	0.8
Q4003		
E	-14.3	0
C	0	0
B	-19.5	0.8
Q4101		
E	0	0
C	10.9	0.6
B	0.2	0.6
Q4154		
E	0	0
C	0	0
B	5.0	5.0
Q4171		
E	0	0
C	0	0
B	0.1	0.1
Q4173		
E	2.5	2.5
C	0.5	0.5
B	0	
Q7001		
E	2.0	2.0
C	0	0
B	1.3	1.3
TP501	0.1	0.1
TP502	60.6	60.6
TP551	0.4	0.4
TP552	0.4	0.4
TP556	2.2	2.2
TP558	0.1	0.1
TP559	0	0
TP801	0.1	0.1
TP802	0.1	0.1
TP803	0.1	0.1
TP804	0.1	0.1
TP805	0.1	0.1
TP806	0.1	0.1
TP807	0.1	0.1
TP808	11.8	11.8
TP809	0	0
TP810	0	0
TP1001	0	0
TP1002	39.1	39.1
TP1003	14.2	14.2
TP1004	5.2	5.2
TP1005	12.0	12.0

[illegible]

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

### MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE PIN NO.	REC	PLAY	STOP
IC2601			
1	13.2	13.3	13.5
2	13.2	13.3	13.5
3	13.7	13.8	14.0
4	1.2	1.2	1.3
5	5.2	5.2	5.3
6	0.9	0.9	1.0
7	1.0	1.0	1.0
8	0.6	0.6	0.6
9	2.7	2.7	2.9
10	1.5	1.5	1.6
11	0	0	0
12	3.9	3.9	3.9
13	3.9	3.9	3.9
14	3.9	3.9	3.9
15	0.1	0.1	0.1
16	13.2	13.3	13.5
IC6001			
1	5.0	5.0	5.0
2	0	0	0
3	0	0	0
4	---	---	---
5	5.1	2.4	2.4
6	1.0	0.8	0.8
7	0	0	0
8	0	0	0
9	2.5	2.5	4.1
10	2.4	2.4	0
11	4.9	4.9	4.9
12	4.1	4.3	4.3
13	4.8	4.8	4.8
14	5.2	5.1	5.2
15	0	0	0
16	5.1	5.1	5.1
17	0	0	0
18	---	---	---
19	---	---	---
20	5.2	5.1	5.2
21	0	0	0
22	0	0	0
23	2.6	2.6	2.6
24	2.6	2.6	2.6
25	4.5	4.5	4.5
26	5.2	5.2	5.2
27	5.1	5.1	5.1
28	5.1	5.1	5.1
29	2.6	2.6	2.6
30	5.2	5.2	5.2
31	0	0	0
32	5.2	5.2	5.2
33	5.3	5.1	5.3
34	5.2	5.1	5.2
35	0	4.5	0
36	0	0	0
37	0	0	5.1

MODE PIN NO.	REC	PLAY	STOP
38	5.2	5.1	0
39	0	0	5.1
40	0	0	0
41	5.2	5.2	5.2
42	0	0	0
43	5.2	5.2	5.2
44	0	0	0
45	4.1	4.1	4.1
46	4.9	4.9	4.9
47	5.1	5.1	5.1
48	5.2	5.2	5.2
49	5.1	0	0
50	5.2	0	5.2
51	0	0	0
52	5.2	5.2	5.2
53	0	0	0
54	0	0	0
55	0	0	0
56	0	0	0
57	0.4	0.4	0.4
58	5.3	5.3	5.3
59	5.2	5.2	5.2
60	0	0	0
61	5.2	5.2	5.2
62	0	0	0
63	0.3	0.3	0.3
64	5.0	4.9	5.0
65	5.2	5.3	5.3
66	0	0	0
67	0	0	0
68	0	0	0
69	5.2	5.3	5.3
70	5.2	5.3	5.3
71	0	0	0
72	2.6	2.6	2.6
73	5.3	5.3	5.3
74	5.3	5.3	5.3
75	5.3	5.3	5.3
76	5.3	5.3	5.3
77	3.6	3.6	3.6
78	5.1	5.2	5.2
79	5.2	5.2	5.2
80	5.2	5.2	5.2
81	3.4	3.0	3.4
82	0	0	0
83	0	0	0
84	0	0	0
85	3.0	2.6	2.6
86	2.1	2.6	2.6
87	2.6	2.6	2.6
88	2.6	2.6	2.6
89	2.6	2.6	2.6
90	2.6	2.6	2.6
91	0	0	0
92	5.2	5.2	5.2

MODE PIN NO.	REC	PLAY	STOP
93	---	0	0
94	2.6	2.6	2.6
95	2.6	2.6	2.6
96	0	0	0
97	1.2	1.2	1.2
98	---	---	---
99	---	---	---
100	2.1	2.1	2.1
IC6002			
1	1.3	1.3	1.3
2	0	0	0
3	0	0	0
4	---	---	---
IC6003			
1	2.4	2.4	2.4
2	1.3	1.3	1.3
3	0	0	0
4	---	---	---
IC6004			
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	5.1	5.1	5.1
6	5.0	5.0	5.1
7	0	0	0
8	5.1	5.1	5.1
Q6002			
E	11.8	11.8	11.8
C	11.6	0.5	0.5
B	11.0	11.8	11.8
Q6003			
E	4.5	0	0
C	11.0	11.8	11.8
B	5.0	0	0
Q6004			
E	5.3	5.3	5.3
C	5.1	5.1	5.1
B	4.3	4.3	4.3
Q6005			
E	0	0	0
C	0	0	0
B	0.8	0.8	0.8
Q6006			
E	5.1	5.1	5.1
C	5.1	5.1	5.1
B	0	0	0
Q6007			
E	0	0	0
C	5.1	5.1	5.1
B	0	0	0

[illegible]

## CAPSTAN STATOR C.B.A.

[illegible]

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

HEAD AMP C.B.A.  
(A)

[illegible]

HEAD AMP C.B.A.  
(B,C)

[illegible]

Hi-Fi AUDIO/VIDEO  
HEAD AMP C.B.A.  
(D,E)

MODE PIN NO.	REC	PLAY
IC3501		
1	2.6	2.6
2	0.2	4.2
3	0	1.4
4	0	0.7
5	0	0
6	0	0.7
7	0	1.4
8	0	0
9	0	0
10	0	2.1
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.9	0
17	5.9	0.1
18	6.3	0
19	---	---
20	---	---
21	---	---
22	---	---
23	---	---
24	---	---
25	11.8	0
26	5.0	5.2
27	0	0
28	0	0
29	0	0
30	2.7	0
31	5.1	0
32	5.0	0.3
33	0	0
34	0.2	0.4
35	11.9	12.0
36	0.3	4.9
IC4401		
1	0	2.6
2	4.0	0
3	0.6	0
4	0	0
5	4.0	0
6	4.0	0
7	1.0	1.0
8	0.7	0.7
9	2.6	2.6
10	5.1	5.1
11	0	0
12	0	0
13	3.9	3.9
14	3.9	3.9
15	0.1	0.1
16	13.0	13.0

[illegible]

AUDIO C.B.A.  
(D,E)

MODE PIN NO.	REC	PLAY
IC4201		
1	2.5	2.5
2	2.5	2.5
3	2.5	2.5
4	2.5	2.5
5	25	2.5
6	5.0	5.0
7	2.6	2.6
8	1.5	1.5
9	0	0
10	0	0
11	2.5	2.5
12	2.6	2.6
13	0	0
14	0.1	0.1
15	0	0
16	4.3	4.3
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	5.1	5.1
24	0	0
25	2.6	2.6
26	2.5	2.5
27	2.6	2.6
28	0	0
29	1.5	1.5
30	2.6	2.6
31	5.0	5.0
32	2.5	2.5
33	2.5	2.5
34	2.5	2.5
35	2.5	2.5
36	0.1	0.1
37	0	0
38	2.5	2.5
39	11.6	11.6
40	0	0
41	6.1	6.1
42	0	0
43	0	0
44	0	0
45	6.0	6.0
46	0	0
47	0	0
48	0	0
IC4271		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	0	0

MODE PIN NO.	REC	PLAY
6	0.1	0..1
7	0.1	0.1
8	0.1	0.1
9	0	0
10	0	0
11	-5.7	-5.7
12	0	0
13	0	0
14	0	0
IC4301		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-5.7	-5.7
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0.1	0.1
15	0	0
16	5.0	5.0
IC4302		
1	0	0
2	0	0
3	0	0
4	-5.7	-5.7
5	0	0
6	0	0
7	0.1	0.1
8	5.0	5.0
IC4303		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-5.7	-5.7
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0.1	0.1
15	0	0
16	5.0	5.0
IC9001		
1	4.2	4.2
2	4.1	4.1

MODE PIN NO.	REC	PLAY
3	4.2	4.2
4	9.1	9.1
5	2.4	2.4
6	0	0
7	4.2	4.2
8	3.7	3.7
9	1.3	1.3
10	4.0	4.0
11	4.0	4.0
12	4.0	4.0
13	5.0	5.0
14	4.3	4.3
15	4.1	4.1
16	4.2	4.2
17	0	0
18	5.2	5.2
19	0	0
20	4.1	4.1
21	1.8	1.8
22	4.2	4.2
23	4.2	4.2
24	4.2	4.2
25	4.2	4.2
26	1.8	1.8
27	4.2	4.2
28	3.3	3.3
29	4.2	4.2
30	4.1	4.1
IC9002		
1	0	0
2	0	0
3	0	0
4	-5.7	-5.7
5	0	0
6	0	0
7	0.1	0.1
8	5.0	5.0
IC9201		
1	3.1	3.1
2	3.7	3.7
3	5.1	5.1
4	4.2	4.2
5	0	0
6	5.1	5.1
7	4.5	4.5
8	2.8	2.8
9	2.8	2.8
Q9001		
E	3.1	3.1
C	5.0	5.0
B	3.8	3.8

[illegible]

## COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

TV PROCESS  
C.B.A.

MODE PIN NO.	REC	PLAY
IC5301		
1	2.7	2.7
2	2.9	2.7
3	3.8	4.0
4	5.2	5.2
5	2.1	2.2
6	2.1	2.2
7	6.2	6.2
8	0.3	0.3
9	0	0
10	3.8	3.9
11	5.3	5.3
12	2.4	2.4
13	4.2	4.2
14	6.2	6.2
15	4.3	4.3
16	0.8	0.7
17	0	0
18	0.1	0.1
19	1.8	1.8
20	0	0
21	3.7	3.7
22	3.5	3.6
23	3.7	3.7
24	9.1	9.1
25	3.6	3.6
26	9.2	9.2
27	0	0
28	0	0
29	0	0
30	5.8	5.8
31	6.2	2.0
32	3.7	3.7
33	7.6	7.6
34	8.2	8.2
35	5.2	5.2
36	4.3	4.3
37	9.7	9.7
38	9.1	9.1
39	2.3	2.1
40	1.6	1.7
41	2.4	2.6
42	0	0
43	5.1	5.1
44	5.1	5.1
45	0.4	0.9
46	2.7	2.3
47	5.1	5.1
48	2.5	2.5
IC5651		
1	0	0
2	2.3	2.3
3	2.8	2.8
4	2.3	2.3
5	1.4	1.4

MODE PIN NO.	REC	PLAY
6	1.4	1.4
7	0	0
8	5.0	5.0
9	0	0
10	2.4	2.4
11	2.2	2.2
12	3.4	3.4
13	3.8	3.8
14	0.1	0.1
15	3.3	3.3
16	4.9	4.9
Q5301		
E	2.9	2.9
C	9.0	9.0
B	3.5	3.5
Q5651		
E	1.9	1.9
C	0	0
B	1.2	1.2
Q5652		
E	1.1	1.1
C	4.2	4.2
B	1.6	1.6
Q5653		
E	2.3	2.3
C	0	0
B	1.6	1.6
Q5654		
E	2.5	2.5
C	0	0
B	1.8	1.8
Q5655		
E	2.7	2.7
C	9.1	9.1
B	3.3	3.3
Q5656		
E	3.2	3.2
C	9.0	9.0
B	3.8	3.8
Q5901		
E	9.1	9.1
C	11.6	11.6
B	9.7	9.7
TP5305	1.8	1.8
TP5307	0	0
TP5308	1.9	1.9
TP5309	1.2	1.2
TP5311	0	0
TP5312	2.5	2.5
TP5651	2.3	2.3
TP5652	1.8	1.8

VERTICAL C.B.A.

[illegible]

## TV POWER C.B.A.

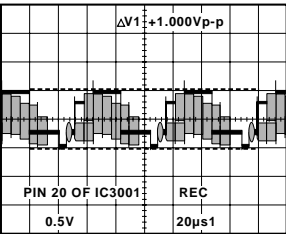
[illegible]

CRT C.B.A.

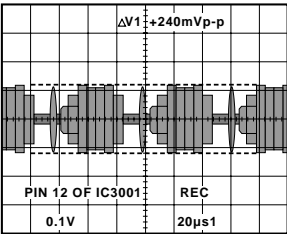
[illegible]

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

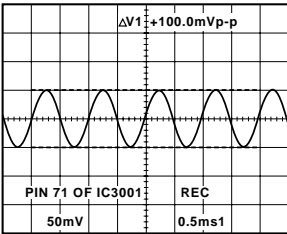
TV/VCR MAIN C.B.A. / TV PROCESS C.B.A. / VERTICAL C.B.A.



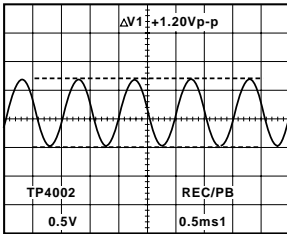
WF1



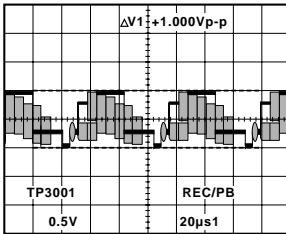
WF6



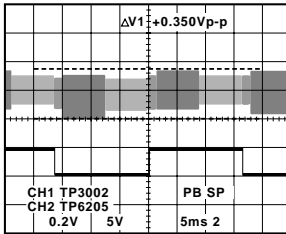
WF9



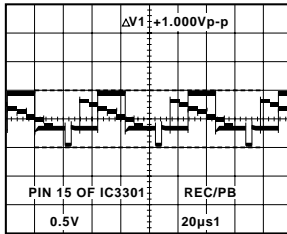
WF14



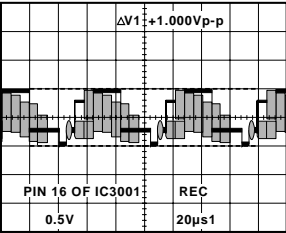
WF18



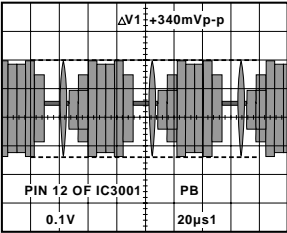
CH1 WF19  
CH2 WF34  
(B, C)



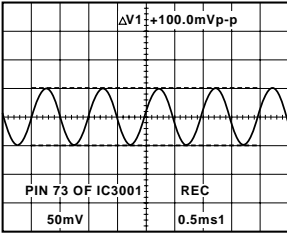
WF20



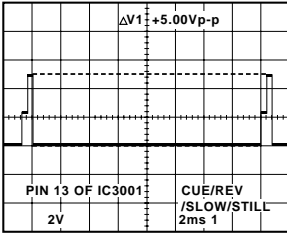
WF2



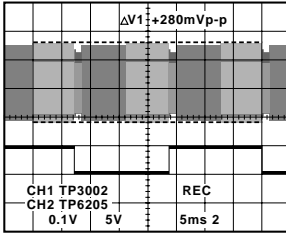
WF6



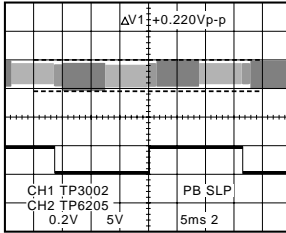
WF10



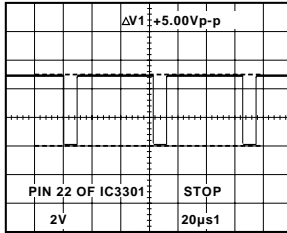
WF15



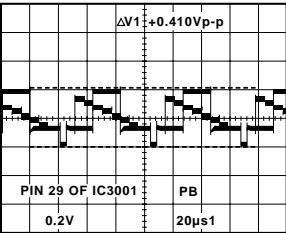
CH1 WF19  
CH2 WF34  
(A)



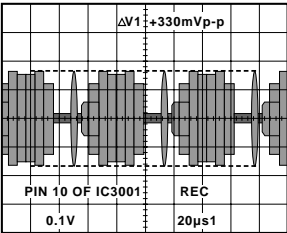
CH1 WF19  
CH2 WF34  
(B, C)



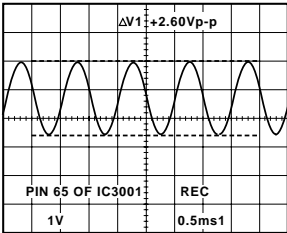
WF21  
(BLUE BACK)



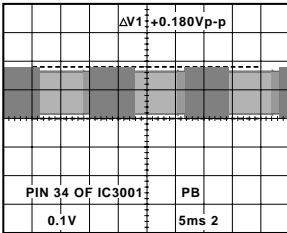
WF3



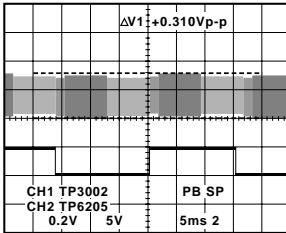
WF7



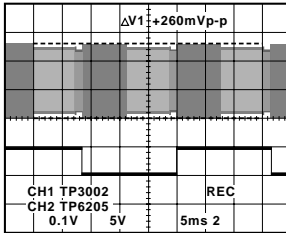
WF11



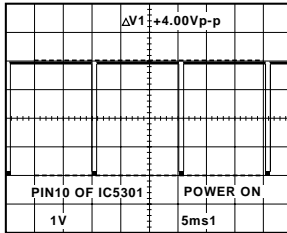
WF16



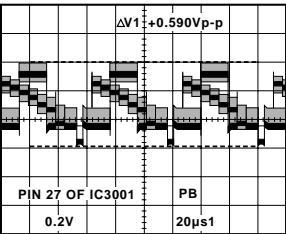
CH1 WF19  
CH2 WF34  
(A)



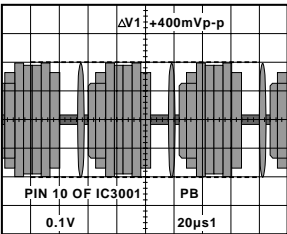
CH1 WF19  
CH2 WF34  
(D, E)



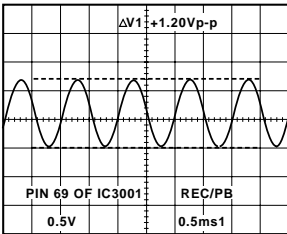
WF23



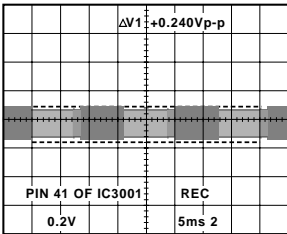
WF4



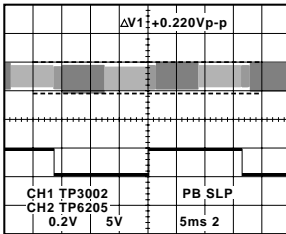
WF7



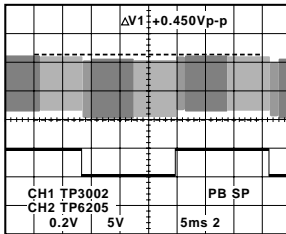
WF12



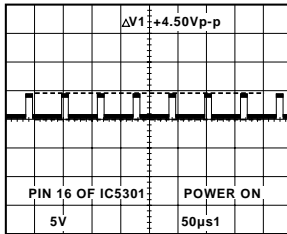
WF17



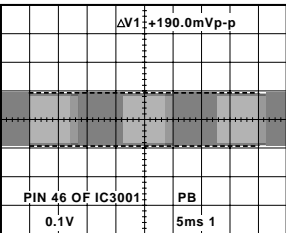
CH1 WF19  
CH2 WF34  
(A)



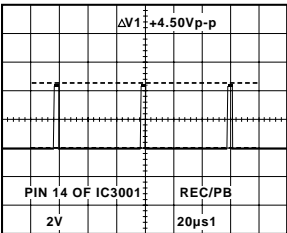
CH1 WF19  
CH2 WF34  
(D, E)



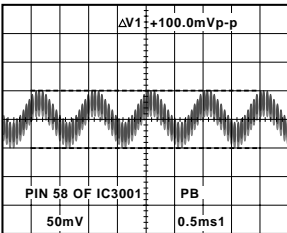
WF24



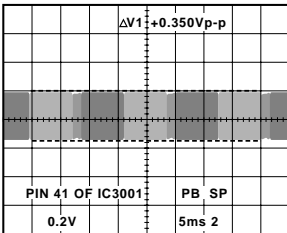
WF5



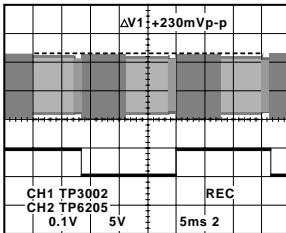
WF8



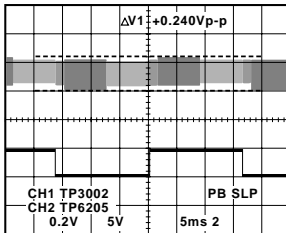
WF13



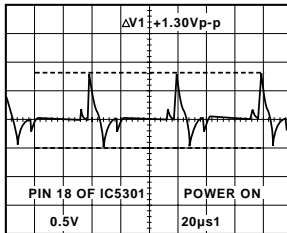
WF17



CH1 WF19  
CH2 WF34  
(B, C)



CH1 WF19  
CH2 WF34  
(D, E)



WF25

COMPARISON CHART  
OF MODELS & MARKS

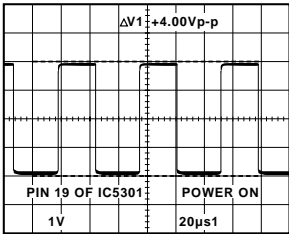
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

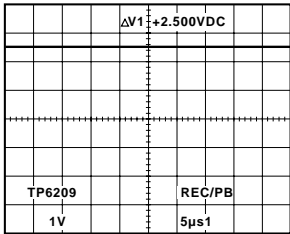
CRT C.B.A.

COMPARISON CHART  
OF MODELS & MARKS

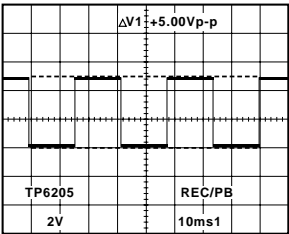
MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E



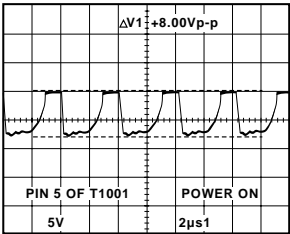
WF26



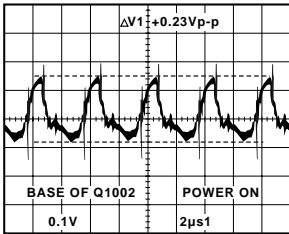
WF31



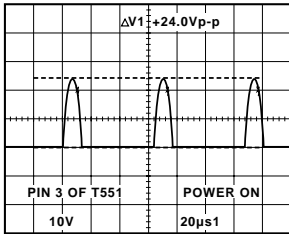
WF34



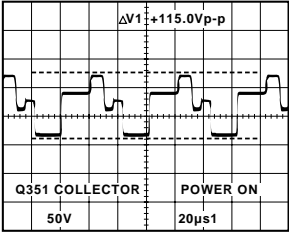
WF40



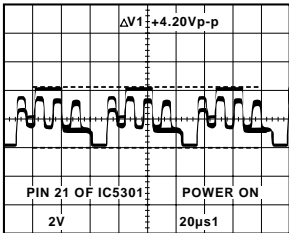
WF45



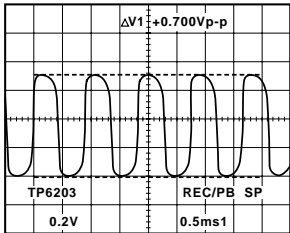
WF50



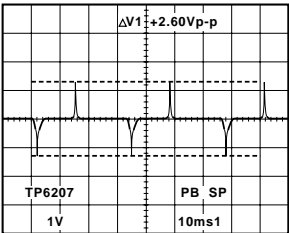
WF60



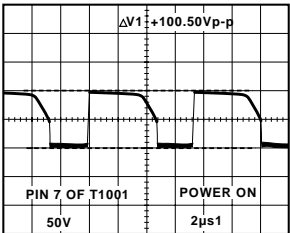
WF27



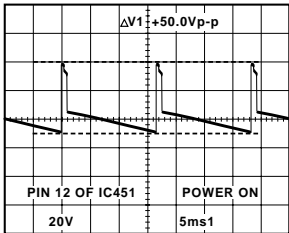
WF32



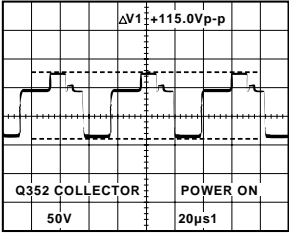
WF35



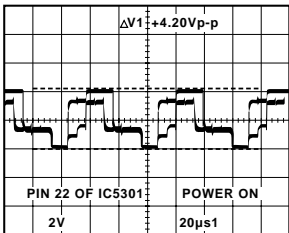
WF41



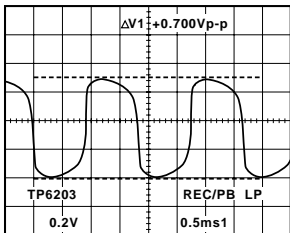
WF46



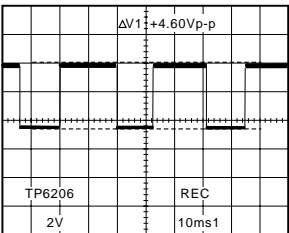
WF61



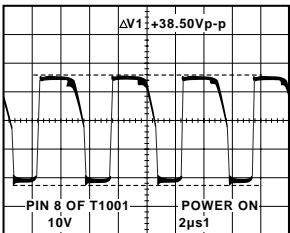
WF28



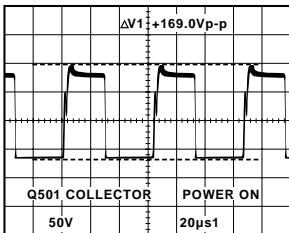
WF32



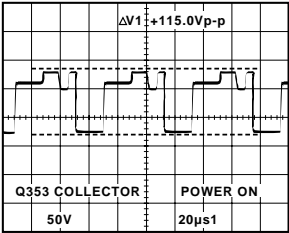
WF37



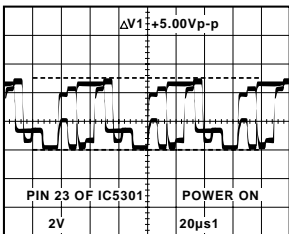
WF42



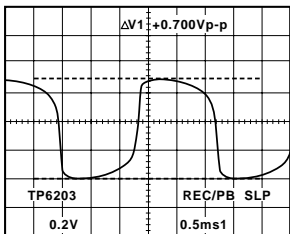
WF47



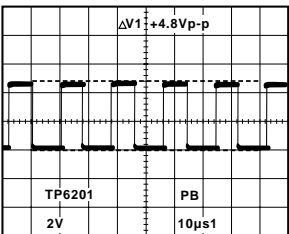
WF62



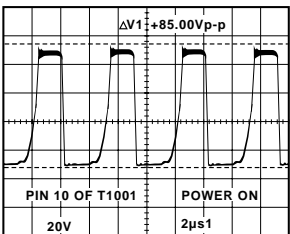
WF29



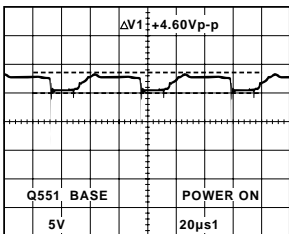
WF32



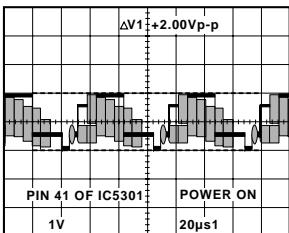
WF38



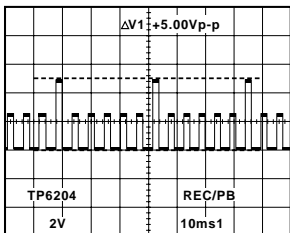
WF43



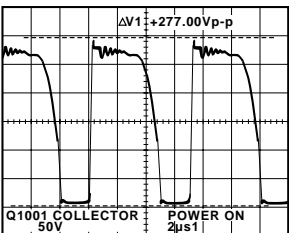
WF48



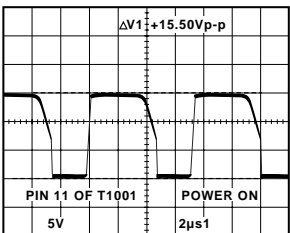
WF30



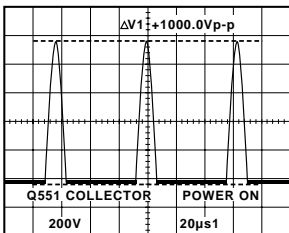
WF33



WF39

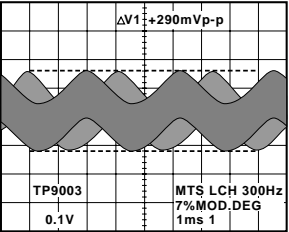


WF44

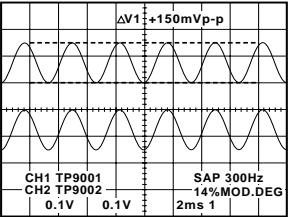


WF49

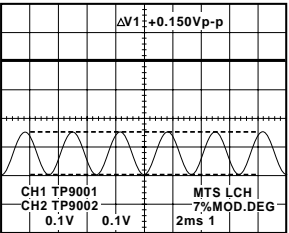
AUDIO C.B.A.  
(D, E)



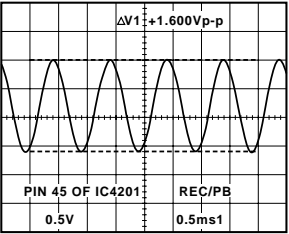
WF70



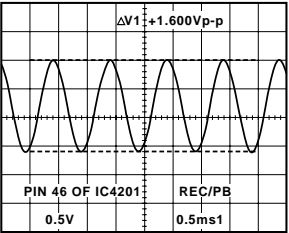
CH1 WF71  
CH2 WF72



CH1 WF71  
CH2 WF72

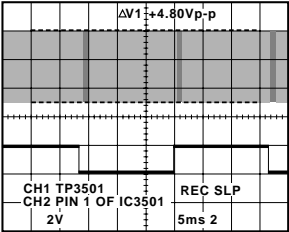


WF73



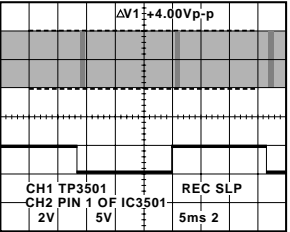
WF74

HEAD AMP C.B.A.  
(A)



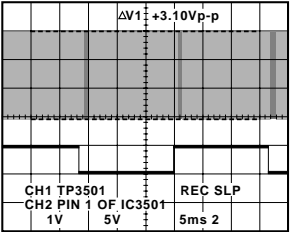
CH1 WF80  
CH2 WF81

HEAD AMP C.B.A.  
(B, C)



CH1 WF82  
CH2 WF83

Hi-Fi AUDIO/VIDEO  
HEAD AMP C.B.A. (D, E)



CH1 WF84  
CH2 WF85

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PVQ-2510	A
PV-C2540	B
PV-C2540-K	C
PV-C2580	D
PV-C2580-K	E